

**SPORT I TURYSTYKA**  
**ŚRODKOWOEUROPEJSKIE CZASOPISMO NAUKOWE**

**T. 5**

**NR 4**

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W CZĘSTOCHOWIE

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# SPIS TREŚCI

## CONTENTS

Wstęp .....	7
<b>Część I</b>	
DZIEJE KULTURY FIZYCZNEJ W POLSCE I NA ŚWIECIE	
Arkadiusz WŁODARCZYK, Kamil POTRZUSKI	
Igrzyska panhelleńskie (1859–1889) w świetle XIX-wiecznej prasy polskiej zaboru austriackiego i rosyjskiego .....	11
The Panhellenic Games (1859–1889) in the 19 <sup>th</sup> century Polish press (Abstract) .....	11
<b>Część II</b>	
TEORIA I METODYKA WYCHOWANIA FIZYCZNEGO I SPORTU	
Oleh NEBOZHUK, Oksana MATVEIKO, Ivan PYLYPCHAK, Ihor LOTOTSKYI, Svitlana INDYKA, Natalia BIELIKOVA	
General physical fitness of servicemen as the main element of increasing military-special training .....	39
Ogólna sprawność fizyczna żołnierzy jako główny element zwiększenia wyszkolenia wojskowo-specjalnego (Streszczenie) .....	39
Filip PITERA, Jarema BATORSKI	
Football coach replacement – short-term effect on performance .....	53
Zmiana trenera piłki nożnej – krótkoterminowy wpływ na wyniki sportowe (Streszczenie) .....	53
<b>Część III</b>	
UWARUNKOWANIA ZDROWIA, POSTAWY PROZDROWOTNE, JAKOŚĆ ŻYCIA	
Anna MARSZAŁEK, Tadeusz KASPERCZYK, Robert WALASZEK	
The use of hippotherapy in shaping the body posture and balance in children with Down syndrome .....	69
Wykorzystanie hipoterapii w kształtowaniu postawy ciała i równowagi u dzieci z zespołem Downa (Streszczenie) .....	69
Wiktoria STAŚKIEWICZ, Elżbieta GROCHOWSKA-NIEDWOROK, Marek KARDAS, Renata POLANIAK, Mateusz GRAJEK, Agnieszka BIAŁEK-DRATWA, Małgorzata PIĄTEK	
Evaluation of the frequency of consumption of vegetables, fruits and products rich in antioxidants by amateur and professional athletes ....	83
Ocena częstotliwości spożywania warzyw, owoców i produktów bogatych w antyoksydanty przez amatorów i zawodowych sportowców (Streszczenie) .....	84

Nataliia BYSHEVETS, Vitalii KASHUBA, Lubov LEVANDOVSKA, Igor GRYGUS, Igor BYCHUK, Oleksandr BEREZHANSKYI, Svitlana SAVLIUK	
Risk Factors for Posture Disorders of Esportsmen and Master Degree Students of Physical Education and Sports in the Specialty “Esports” ...	97
Czynniki ryzyka zaburzeń postawy e-sportowców i studentów studiów magisterskich wychowania fizycznego i sportu w specjalności „e-sport” (Streszczenie) .....	98

#### **CZĘŚĆ IV**

##### **TURYSTYKA I REKREACJA**

Anna OSTROWSKA-TRYZNO, Anna PAWLIKOWSKA-PIECHOTKA	
Some aspects of tourism and transport in the COVID-19 pandemic time .....	121
Wybrane problemy turystyki i transportu w czasie pandemii COVID-19 (Streszczenie) .....	121
Andriy MELNYK, Nadiia MELNYK, Yaroslava KOROBEINYKOVA, Olena POBIGUN, Iryna IERKO	
Position of Spain in the global tourism market: its competitive capacity and priorities .....	135
Miejsce Hiszpanii na światowym rynku turystycznym: konkurencyjność i priorytety (Streszczenie) .....	135
Grzegorz GODLEWSKI, Anna BODASIŃSKA	
A new culture of travel? Controversial forms of tourism in the perception of Polish consumers – pilot study .....	149
Nowa kultura podróżowania? Kontrowersyjne formy turystyki w ocenie polskich konsumentów – badania pilotażowe (Streszczenie) .....	149

##### **BIOGRAMY, Dyskusje, Polemiki, Recenzje, Przegląd Wydawnictw, Sprawozdania**

Wojciech J. CYNARSKI	
Is there a room for proper scientific discussion in the area of controversies and competing scientific theories? A polemics .....	173
Czy w obszarze kontrowersji i istniejących konkurencyjnych teorii naukowych nie należy dopuścić do odpowiedniej naukowej dyskusji? Artykuł polemiczny (Streszczenie) .....	173
Bibliografia publikacji w czasopiśmie naukowym „Sport i Turystyka. Środkowoeuropejskie Czasopismo Naukowe” za lata 2018–2022 (2022, nr 1–3) .....	185
Informacje dla autorów .....	201
Information for authors .....	205

## Wstęp

W 2022 r. czasopismo „Sport i Turystyka. Środkowoeuropejskie Czasopismo Naukowe” ukazuje się piąty rok. Jest kontynuacją czasopisma „Prace Naukowe Akademii im. Jana Długosza w Częstochowie. Kultura Fizyczna”. W czwartym numerze zostały zaprezentowane prace Autorów z różnych ośrodków naukowych w Polsce i na świecie.

W części I – *Dzieje kultury fizycznej i turystyki w Polsce i na świecie* – zamieszczono pracę dotyczącą problematyki igrzysk panhelleńskich (1859–1889) w świetle XIX-wiecznej prasy polskiej zaboru austriackiego i rosyjskiego.

W części II, zatytułowanej *Teoria i metodyka wychowania fizycznego i sportu*, przedstawiono dwa artykuły dotyczące:

- ogólnej sprawności fizycznej żołnierzy – jako głównego elementu zwiększenia wyszkolenia wojskowo-specjalnego;
- zmiany trenera piłki nożnej – krótkoterminowego wpływu na wyniki sportowe.

Część III – *Uwarunkowania zdrowia, postawy prozdrowotne, jakość życia* – odnosi się do następującej tematyki:

- wykorzystanie hipoterapii w kształtowaniu postawy ciała i równowagi u dzieci z zespołem Downa;
- ocena częstotliwości spożywania warzyw, owoców i produktów bogatych w antyoksydanty przez amatorów i zawodowych sportowców;
- czynniki ryzyka zaburzeń postawy e-sportowców i studentów studiów magisterskich Wychowania Fizycznego i Sportu w specjalności „e-sport”.

Część IV czasopisma dotyczy problematyki turystyki i rekreacji. W tej części opublikowano trzy artykuły, omawiające następujące zagadnienia:

- wybrane problemy turystyki i transportu w czasie pandemii COVID-19;
- miejsce Hiszpanii na światowym rynku turystycznym: konkurencyjność i priorytety;
- kontrowersyjne formy turystyki w ocenie polskich konsumentów – badania pilotażowe.

W ramach części *Biogramy, dyskusje, polemiki, recenzje, przegląd wydawnictw, sprawozdania* Wojciech J. Cynarski przygotował pracę analizującą, czy

w obszarze kontrowersji i istniejących konkurencyjnych teorii naukowych nie należy dopuścić do odpowiedniej naukowej dyskusji (artykuł polemiczny).

Na końcu tomu zamieszczono bibliografię publikacji w czasopiśmie naukowym „Sport i Turystyka. Środkowoeuropejskie Czasopismo Naukowe” za lata 2018–2022 (2022, nr 1–3).

Pragnę złożyć serdeczne podziękowania Recenzentom za cenne i życzliwe uwagi, podnoszące wartość niniejszego periodyku. Dziękuję za współpracę Autorom publikacji zamieszczonych w czasopiśmie naukowym. Jednocześnie wyrażam nadzieję, że liczba Osób zainteresowanych publikowaniem własnych osiągnięć naukowych w kolejnych wydaniach czasopisma „Sport i Turystyka. Środkowoeuropejskie Czasopismo Naukowe” się poszerzy.

Eligiusz Małolepszy



**CZĘŚĆ I**  
DZIEJE KULTURY FIZYCZNEJ  
W POLSCE I NA ŚWIECIE





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## Igrzyska panhelleńskie (1859–1889) w świetle XIX-wiecznej prasy polskiej zaboru austriackiego i rosyjskiego

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### The Panhellenic Games (1859–1889) in the 19<sup>th</sup> century Polish press

#### Abstract

In 1859, the first Modern Panhellenic Games were held in Athens. The Games, initiated by the wealthy entrepreneur Evangelos Zappas, although originally planned as a regular event, were held only three more times – in 1870, 1875 and 1888/1889. These were also pioneering times in the development of Polish sport. The Polish press was interested in the competitions in distant Greece, calling them the Olympic Games. Especially their first edition received relatively great interest in the Galician and Warsaw press. The press releases contained information about the competition programme, the involvement of the royal family in the event, the setting of the event and

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the interest of the audience. However, short, laconic references prevailed, and the Games themselves were presented as an exotic curiosity rather than an event of great social and cultural importance. There is also little evidence that the press reports on the events of 1859–1889 had a significant impact on the development of Polish sport.

**Keywords:** The Panhellenic Games, pseudo-Olympics (pre-Coubertin Olympics), press, Poland, 19<sup>th</sup> century.

## Streszczenie

W 1859 roku zostały rozegrane w Atenach pierwsze nowożytne igrzyska panhelleńskie. Zawody, których inicjatorem był zamożny przedsiębiorca i społecznik Evangelos Zappas, choć pierwotnie planowane jako wydarzenie cykliczne, zostały w przyszłości przeprowadzone jeszcze tylko trzykrotnie – w latach 1870, 1875 oraz 1888/1889. Były to również pionierskie czasy rozwoju sportu polskiego. Zawodami w dalekiej Grecji interesowała się polska prasa, która nazywała je igrzyskami olimpijskimi. Szczególnie ich pierwsza edycja wzbudziła relatywnie duże zainteresowanie prasy galicyjskiej oraz warszawskiej. W notatkach prasowych pojawiały się informacje o programie zawodów, zaangażowaniu rodziny królewskiej w przedsięwzięcie, oprawie wydarzenia oraz zainteresowaniu widowni. Dominowały jednak krótkie, lakoniczne wzmianki, a same igrzyska przedstawiano raczej jako egzotyczną ciekawostkę niż wydarzenie o doniosłym znaczeniu społecznym i kulturowym. Niewiele wskazuje również na to, aby relacje prasowe o wydarzeniach lat 1859–1889 miały znaczący wpływ na rozwój sportu polskiego.

**Słowa kluczowe:** igrzyska panhelleńskie, igrzyska pseudoolimpijskie (przedcoubertinowskie), prasa, Polska, XIX wiek.

## Wprowadzenie

Kres antycznych igrzysk olimpijskich przypadł prawdopodobnie na połowę V wieku naszej ery<sup>1</sup>. Nie oznaczał on jednak końca szeroko pojętej idei olimpijskiej, która w różnych formach przetrwała w kręgu kultury europejskiej blisko 1500 lat. Symbolicznym końcem tego okresu jest 1894 rok i zwołanie z inicjatywy barona Pierre’a de Coubertina kongresu w Paryżu, na którym podjęto decyzję o powołaniu Międzynarodowego Komitetu Olimpijskiego i organizacji pierwszych nowożytnych igrzysk olimpijskich w Atenach, które zaplanowano na 1896 rok<sup>2</sup>. Jednak już wcześniej pojawiało się wiele inicjatyw w postaci lokalnych lub

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<sup>1</sup> Więcej na temat końca starożytnych igrzysk olimpijskich zob. A. Włodarczyk, *Koniec starożytnych igrzysk olimpijskich w świetle źródeł antycznych i bizantyńskich*, [w:] M. Zowisto, J. Kosiewicz (red.), *Sport i turystyka w perspektywie nauk społecznych: tradycja i współczesność*, Kraków 2019, s. 93–101.

<sup>2</sup> Więcej o inicjatywie barona Pierre’a de Coubertina i kulisy przyznania igrzysk Atenom zob. G. Młodzikowski, *U źródeł nowożytnego olimpizmu – kongresy: Sorbona 1892 i 1894*, „Kultura Fizyczna” 1988, nr 7–8, s. 11–14; A. Włodarczyk, *Za kulisami kongresu dla wznowienia igrzysk olimpijskich – początki instytucjonalizacji idei*, [w:] Z. Dziubiński, M. Jasny (red.), *Kultura fizyczna a instytucjonalizacja*, Warszawa 2020, s. 313–326.

narodowych festiwali o charakterze sportowym i kulturalnym, które w różnym stopniu nawiązywały do antycznych tradycji olimpijskich. Niektóre z nich miały na celu wskrzeszenie igrzysk na wzór starożytny, inne zaś nawiązywały do tradycji olimpijskich, by podnieść prestiż wydarzenia w społeczeństwie. Wszystkie te inicjatywy podejmowane przed 1896 rokiem często nazywa się igrzyskami pseudoolimpijskimi, a za kolebkę tego typu wydarzeń należy uznać Wyspy Brytyjskie, gdzie już na początku XVII wieku lokalne festiwale sportowo-kulturalne nazywano olimpijskimi<sup>3</sup>. Pojęcie *igrzyska pseudoolimpijskie* (ang. *pseudo-Olympics*) wprowadził po raz pierwszy w literaturze anglojęzycznej w 1988 roku Gerald Redmond, by odróżnić przedcoubertinowskie igrzyska i festiwale sportowo-kulturalne z motywem olimpijskim od nowożytnych igrzysk olimpijskich. Z pewnością, używając tego pojęcia, nie można uniknąć pewnych uproszczeń, a samo w sobie jest ono nieco dyskusyjne, faworyzuje bowiem inicjatywę Coubertina (uwzględniając ją za najbardziej udaną i długotrwałą, co z jednej strony pod względem międzynarodowego prestiżu i popularności może być prawdą, jednakże rozpatrując wszystkie wydarzenia okołoolimpijskie na przestrzeni wieków, igrzyska Coubertina nie są ani najdłuższą rozgrywaną tego typu imprezą, ani najbardziej zbliżoną do antycznych igrzysk pod względem założeń ideowych i organizacyjnych), a zgodnie ze znaczeniem przedrostka *pseudo-*, odnoszącego się do osób lub zjawisk, które nie są tym, co udają lub naśladują, również nowożytne olimpie i co więcej – każde wydarzenie nawiązujące do antycznych olimpijskich agonów należy uznać za igrzyska pseudoolimpijskie<sup>4</sup>. Dlatego być może alternatywną nazwą dla igrzysk pseudoolimpijskich, biorąc pod uwagę kontekst historyczny, jest wspomniane wcześniej pojęcie igrzysk przedcoubertinowskich.

Z czasem tego typu imprezy (igrzyska pseudoolimpijskie czy też przedcoubertinowskie) zaczęto organizować w wielu państwach europejskich, nie wszystkie jednak miały charakter sportowy mimo bezpośredniego odwołania do igrzysk olimpijskich. Za przykład mogą posłużyć igrzyska poetyckie odbywające się od 1693 roku w rzymskiej Akademii Arkadia. W ich programie, mimo nazwy i rozwiązań organizacyjnych zaczerpniętych z olimpijskiego pierwowzoru, nie znalazły się żadne konkurencje sportowe<sup>5</sup>. W XVIII i XIX wieku w coraz większej liczbie krajów organizowano igrzyska pseudoolimpijskie. Wśród nich można wy-

<sup>3</sup> Na temat pojęcia igrzysk pseudoolimpijskich i tego typu wydarzeń organizowanych na Wyspach Brytyjskich w XVII wieku zob. A. Włodarczyk, M. Rozmiar, *The chronology and naming of seventeenth-century pseudo-Olympics in the British Isles*, „Sport in History” 2021, vol. 41 (2), s. 159–180.

<sup>4</sup> G. Redmond, *Toward Modern Revival of the Olympic Games: The Various „Pseudo-Olympics” of the 19th-Century*, [w:] J.O. Segrave, D. Chu (red.), *The Olympic Games in Transition*, Campaign 1988, s. 72.

<sup>5</sup> Zob. A. Włodarczyk, M. Rozmiar, *Giovanni Mario Crescimbeni i poetyckie agony w rzymskiej Akademii Arkadyjskiej*, „Sport i Turystyka. Środkowoeuropejskie Czasopismo Naukowe” 2018, t. 1, nr 2, s. 11–26.

mienić m.in. igrzyska olimpijskie w Anhalt-Dessau (Worlitz)<sup>6</sup>, w Ramlösa<sup>7</sup> czy kolejne inicjatywy angielskie – w Much Wenlock, Morpeth oraz Liverpoolu<sup>8</sup>. Imprezy nawiązujące do tradycji olimpijskich nie ominęły również kolebki idei olimpijskiej – Grecji, gdzie w XIX wieku zorganizowano cztery edycje igrzysk – w 1859, 1870, 1875 i 1888–1889 roku<sup>9</sup>. Do tej pory wielu badaczy dokonywało prób zestawienia wszystkich igrzysk pseudoolimpijskich przed 1896 rokiem<sup>10</sup>, są one jednak niepełne z powodu ciągłego odkrywania wcześniej nieznanymi tego typu inicjatyw.

Na ziemiach polskich w XIX wieku również dochodziło do organizacji imprez o charakterze pseudoolimpijskim, czego przykładem mogą być widowiska przedstawiane w 1873 roku w Grodzisku Wielkopolskim<sup>11</sup>, czy też występy grup cyrkowych, których niektóre elementy programu były inspirowane szeroko pojętymi motywami olimpijskimi<sup>12</sup>. Nie była to jednak jedyna forma popularyzacji olimpijskiej idei na obszarze dawnego państwa polskiego. Dużą rolę (jeśli nie największą) w tej kwestii odgrywała literatura, w której już wcześniej pojawiały się zagadnienia dotyczące greckiej agonistyki<sup>13</sup>, oraz prasa – najbardziej dostępne w ówczesnym społeczeństwie źródło bieżących informacji i wiedzy, gdzie pojawiały się teksty poruszające w mniejszym lub większym stopniu tematykę olimpijską<sup>14</sup>.

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<sup>6</sup> E. Hirsch, „*Olympische Spiele*” am Drehberg in Anhalt-Dessau zur Goethezeit, „*Nikephoros*” 1997, Bd 10, s. 265-288.

<sup>7</sup> A. Svahn, „*Olympiska spelen*” i Ramlösa 1834 och 1836, Helsingborg 1984.

<sup>8</sup> Brytyjskie dziedzictwo olimpijskie począwszy od XVII wieku opisał Martin Polley w: *The British Olympics: Britain's Olympic Heritage, 1612–2012*, Swindon 2011.

<sup>9</sup> K. Georgiadis, *Olympic Revival: The Revival of the Olympic Games in Modern Times*, Athens 2003.

<sup>10</sup> Zob. np. G. Redmond, *Toward Modern Revival...*, s. 72; J.K. Rühl, *Olympics Before Coubertin*, [w:] J.E. Findling, K.D. Pelle (red.), *Encyclopedia of the Modern Olympic Movement*, London 2004, s. 3; A.W.M. Driega, *Olympics Before Pierre de Coubertin*, „*Journal of Olympic History*” 1997, vol. 5 (2), s. 20–21.

<sup>11</sup> M. Rozmiarnek, *Pseudo-Olympics in the Grand Duchy of Posen: The Forgotten Sports Heritage of Greater Poland*, „*The International Journal of the History of Sport*” 2020, vol. 37 (15), s. 1517–1530.

<sup>12</sup> Zob. A. Włodarczyk, M. Rozmiarnek, *Circus shows in nineteenth-century Poland as pseudo-olympics*, „*Sport in History*” 2022, s. 1–27.

<sup>13</sup> Zob. D. Słapek, *Terra incognita? Sport antyczny w historiografii polskiej (początki)*, „*Prace Naukowe Akademii im. Jana Długosza w Częstochowie. Kultura Fizyczna*” 2018, t. 17, nr 2, s. 11–56; M. Żmuda-Pańska, M. Siwek, *Ancient Physical Culture in Polish-Language Literature of the Enlightenment*, „*The International Journal of the History of Sport*” 2021, vol. 38 (2–3), s. 203–226.

<sup>14</sup> Różnego rodzaju tekstów w XIX-wiecznej prasie polskiej, w których poruszano tematykę olimpijską lub używano motywu olimpijskiego, jest mnóstwo. Dotyczy to zarówno pojedynczych wzmianek w postaci informacji, doniesień, porównań, jak i całych tekstów. Przykładem niech będą: „*Kuryer Litewski*” 1810, nr 9, s. 3–4; „*Pszczola Polska*” 1820, nr 8, s. 360; „*Orzeł Biały*”

W polskiej literaturze naukowej i popularnej pojawiały się opracowania dotyczące igrzysk panhelleńskich w XIX-wiecznej Grecji. Warto tutaj wspomnieć m.in. Wojciecha Lipońskiego, który w *Historii sportu* opisał próby przywrócenia igrzysk olimpijskich przed 1896 rokiem, w tym właśnie inicjatywę grecką z lat 1859–1889, *Szkice z dziejów kultury fizycznej* Marka Ordyłowskiego, gdzie jeden rozdział autor poświęcił igrzyskom odwołującym się do antycznej tradycji olimpijskiej, czy też Władysława Minkiewicza, który w *Olimpijskiej gorączce* zawarł krótką wzmiankę dotyczącą igrzysk panhelleńskich w Grecji<sup>15</sup>.

W kontekście idei olimpijskiej na łamach polskiej prasy pod zaborami również pojawiały się opracowania naukowe. Dotyczyły one jednak głównie przełomu XIX i XX wieku oraz poruszały kwestię wskrzeszenia i przebiegu igrzysk olimpijskich do 1914 roku<sup>16</sup>. Na szczególną uwagę zasługuje tutaj cykl artykułów Marka Ordyłowskiego<sup>17</sup>. Brak natomiast opracowania podejmującego zagadnienie, czy i w jakim stopniu polska prasa w XIX wieku informowała społeczeństwo o igrzyskach panhelleńskich w Grecji w latach 1859–1889. Celem niniejszej pracy jest wypełnienie tej luki, a do jej napisania wykorzystano metodę historyczną, polegającą na wyszukaniu źródeł historycznych odnoszących się do zagadnienia, ich selekcji i analizie. Materiałem źródłowym były tytuły prasowe wydawane w zaborze austriackim i rosyjskim. W czasie gromadzenia źródeł dokonano również wstępnej kwerendy prasy polskiej wydawanej w zaborze pruskim (od 1871

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1820, t. 3, s. 9–10; „Wiadomości Brukowe” 1822, nr 273, s. 30; „Wiadomości Brukowe” 1822, nr 280, s. 60; „Magazyn Powszechny Użytecznych Wiadomości” 1842, t. 8, z. 2, s. 49–52; „Ziemianin” 1864, nr 23, s. 6; „Gazeta Toruńska” 1875, nr 25, s. 3; „Gazeta Toruńska” 1875, nr 26, s. 2; „Czas” 1884, nr 7, s. 1; „Gazeta Lwowska” 1886, nr 67, s. 4; „Gazeta Lwowska” 1886, nr 293, s. 4; „Kurjer Warszawski” 1891, nr 92, s. 2. Warto też w tym miejscu wspomnieć cykl artykułów Mirosława Tyrza o starożytnych igrzyskach olimpijskich w „Przewodniku Gimnastycznym «Sokół»”, który ukazał się w numerach 10, 11 i 12 z 1885 roku oraz w numerze 1 z 1886 roku.

<sup>15</sup> W. Lipoński, *Historia sportu*, Warszawa 2012, s. 466–474; M. Ordyłowski, *Szkice z dziejów kultury fizycznej*, Zielona Góra 2005, s. 70–72; W. Minkiewicz, *Olimpijska gorączka*, Poznań 1991, s. 13.

<sup>16</sup> Zob. np. T. Ziółkowska, *Igrzyska olimpijskie w prasie poznańskiej do 1914 r.*, [w:] J. Lipiec (red.), *Logos i etos polskiego olimpizmu*, Kraków 1994, s. 471–477; R. Wasztyl, *Galicysko-krakowski przyczynek do genezy Polskiego Komitetu Olimpijskiego*, [w:] J. Lipiec (red.), *Logos i etos polskiego olimpizmu*, s. 465–470; B. Pędraszewska, *Problematyka odradzania się idei olimpijskiej na łamach codziennej prasy warszawskiej w latach 1894–1912*, [w:] B. Woltmann (red.), *Z najnowszej historii kultury fizycznej w Polsce*, t. 4, Gorzów Wlkp. 2000, s. 55–60.

<sup>17</sup> M. Ordyłowski, *Problematyka olimpijska w prasie polskiej okresu zaborów na przykładzie krakowskiego dziennika „Głos Narodu”*, „Kwartalnik Naukowy AWF we Wrocławiu” 1994, nr 3, s. 45–59; tenże, *Początki i przebieg pierwszych nowożytnych Igrzysk Olimpijskich w świetle lwowskiego dziennika „Gazeta Narodowa”*, [w:] J. Lipiec (red.), *Logos i etos polskiego olimpizmu*, s. 479–487; tenże, *Początki nowożytnych igrzysk olimpijskich w relacjach warszawskiego dziennika „Słowo”*, „Kwartalnik Naukowy AWF we Wrocławiu” 1994, nr 1, s. 127–133; tenże, *Idea i nowożytne igrzyska olimpijskie na łamach „Czasu” – organu konserwatystów galicyjskich*, „Kwartalnik Naukowy AWF we Wrocławiu” 1994, nr 4, s. 53–76.

roku niemieckim), nie odnaleziono jednak żadnych wzmianek dotyczących igrzysk panhelleńskich.

## Rys historyczny igrzysk panhelleńskich (1859–1889)

W 1821 roku rozpoczęło się trwające osiem lat powstanie greckie przeciwko Imperium Osmańskiemu, które od ponad 400 lat sprawowało kontrolę nad terenami Hellady. Efektem tego powstania i klęski Turcji na innych frontach, a także złożonej sytuacji politycznej w ówczesnej Europie, w 1829 roku Grecja uzyskała autonomię, a rok później niepodległość. W 1832 roku na mocy traktatu stambulskiego Turcja osmańska uznała niepodległość państwa greckiego<sup>18</sup>. W chwili odzyskania niepodległości władze Grecji podjęły lub rozpoczęły wspieranie działań mających na celu zredefiniowanie przeszłości ziem i ludów helleńskich tak, aby pogłębiać integrację mieszkańców nowej Grecji, ich lojalność wobec państwa i gotowość do poświęceń dla realizacji celów państwowych. Nie może to dziwić, gdyż działania takie, nazywane polityką historyczną, prowadzą wszystkie państwa nowoczesne, zawsze zainteresowane budowaniem spójnej (choć nie zawsze rygorystycznie zgodnej z naukową wiedzą historyczną) narracji o przeszłości pomagającej realizować bieżące cele<sup>19</sup>. W przypadku Grecji sytuacja była szczególna, gdyż lata świetności Hellady były z jednej strony bardzo odległe, z drugiej podlegające pewnej ideologizacji czy wręcz mitologizacji w całej Europie, której intelektualisci uważali antyczny, grecko-rzymski komponent za jeden z filarów cywilizacji Zachodu przynajmniej od czasów renesansu. Jednym z emblematów antycznej helleńskości była tradycja igrzysk olimpijskich, która – choć w rzeczywistości XIX wieku nieporównywalnie mniej nośna niż współcześnie – mogła potencjalnie stanowić ważny instrument państwo- i narodotwórczy. Wkrótce pojawił się pomysł, by przywrócić igrzyska olimpijskie rozgrywane w starożytności jako ważny element tożsamości narodowej Greków, a jednocześnie uświetnić odzyskanie niepodległości, co pozostawało zgodne z nowogrecką polityką historyczną podkreślającą starożytne tradycje dla budowy dumy narodowej, poczucia jedności i przekonania Greków o własnej świetności. Igrzyska olimpijskie (i inne panhelleńskie) w starożytności bowiem jednożyły podzielony pod względem politycznym świat grecki, będąc symbolem jedności kulturowej i religijnej Hellenów. Nie dziwi więc fakt, że odrodzone państwo greckie w pierw-

<sup>18</sup> Więcej na temat walki Grecji o niepodległość w XIX wieku w literaturze polskiej zob. np. W. Gorzycki, *Walka Grecji o niepodległość w XIX wieku*, Warszawa 1922; A. Bojarski, *Powstanie Greków w latach 1821–1829 w prasie Królestwa Polskiego i Galicji*, „Niepodległość i Pamięć” 2012, nr 19/1–4, s. 5–24; M. Borowska, M. Kalinowska, M. Chylińska (red.), *Wolność albo śmierć. Polscy filhelleni i powstanie greckie 1821*, Warszawa 2021.

<sup>19</sup> R. Chwedoruk, *Polityka historyczna*, Warszawa 2018, s. 384.



szej połowie XIX wieku odwoływało się do starożytnych tradycji (w tym do atletyki), by podkreślić homogeniczność greckich ziem, narodu, pielęgnować poczucie wspólnoty oraz odrzucić wszelkie partykularyzmy we wszystkich sferach życia<sup>20</sup>. Tak, jak wewnątrz zróznicowani, ale zdolni do zjednoczenia i dokonywania rzeczy wielkich byli antyczni Hellenowie, tak – również na płaszczyźnie rywalizacji nawiązującej do igrzysk – mieli się prezentować zarazem nowożytni Grecy. Skądinąd zresztą wiemy, że prawosławna, greckojęzyczna ludność południowych Bałkanów na początku XIX wieku była niezwykle zróznicowana, jej elity silnie związane, momentami wręcz nadające ton aparatowi państwowemu Imperium Osmańskiego, diaspora grecka liczna i rozproszona po całej Europie, nie zawsze zresztą z entuzjazmem patrząca po 1829 roku na nowe państwo, a wielu Greków pozostawało poddanymi tureckimi, gdyż przecież niepodległa Grecja była stosunkowo niewielka<sup>21</sup>. Z tych powodów – przynajmniej potencjalnie – nowożytne igrzyska panhelleńskie miały duży ładunek wartości państwowotwórczych, a więc musiały skupić uwagę władz nowej Grecji, zainteresowanej wzrostem roli niepodległego kraju, także dla samych Greków.

Jednym z pierwszych impulsów do wskrzeszenia antycznych agonów, mających nieco symboliczny charakter, był poemat autorstwa Panagiotisa Soutsosa (1806–1868) zatytułowany *Nekrikos Dialogos (Dialog umarłych)* wydawany w gazecie „Helios” w 1833 roku. W jednym z fragmentów Soutsos ustami Platona woła: „Gdzie są wasze igrzyska olimpijskie?”<sup>22</sup> Potem jeszcze wielokrotnie grecki poeta oficjalnie i wprost nawoływał do wznowienia starożytnych igrzysk, pisząc nawet w tej sprawie do króla Ottona I oraz wygłaszając publiczne przemowy na ten temat (m.in. w 1835, 1842 czy też w 1845 roku)<sup>23</sup>, jednak nikt nie podjął się realizacji tej inicjatywy mimo utworzenia w 1837 roku Komitetu Olimpijskiego, którego jednym z głównych celów zapisanych w królewskim edykcie powołującym instytucję było jak najszybsze zorganizowanie igrzysk<sup>24</sup>. Niektórzy

<sup>20</sup> Zob. np. D. Stapek, *Sport w Sparcie, Sparta w sporcie. Spartan mirage w nowożytnym ruchu sportowym*, „Almanach Historyczny” 2021, nr 23 (1), s. 39–58; D.C. Young, *The Modern Olympics: A Struggle for Revival*, Baltimore 1996.

<sup>21</sup> Popularnonaukowe opracowanie odwołujące się między innymi do trudności w budowaniu jednolitej tożsamości narodowej nowożytnych Greków i zawiłości tamtejszej polityki historycznej: A. Krzemiński, *Grek z głową w ręku*, „Polityka” 2012, nr 23 (2861), s. 64.

<sup>22</sup> Wspomniany fragment można odnaleźć w: „Helios” 1833, nr 4, s. 18, natomiast potwierdzenie, że autorem poematu jest Panagiotis Soutsos znajduje się w numerze 2 z tego samego roku na s. 9. Czasem bowiem podaje się, że autorem tego poematu jest Alexandros Soutsos – brat Panagiotisa – również poeta. „Helios” jest dostępny w wersji elektronicznej pod adresem: <https://books.google.gr/books?id=l1pEAAAACAAJ&pg=PA1#v=onepage&q&f=false>. Informację na temat właściwego autora poematu prawdopodobnie jako pierwszy podał David C. Young w *The Modern Olympics...*, a następnie powtórzył w: *A Brief History of the Olympic Games*, Malden 2004, s. 141.

<sup>23</sup> D.C. Young, *A Brief History of the Olympic Games*, s. 141–142.

<sup>24</sup> W. Lipoński, *Historia sportu*, s. 467.

badacze podają wprawdzie, że w 1838 roku w mieście Letrina (dzisiejszym Pyrgos) zorganizowano zawody sportowe nazwane igrzyskami olimpijskimi, trudno jednak ustalić jakiegokolwiek szczegóły tej inicjatywy z powodu braku zachowania dowodów źródłowych<sup>25</sup>. Można jedynie podejrzewać, że igrzyska, nawet jeśli się odbyły, miały charakter wyłącznie lokalny i prawdopodobnie jednorazowy, inaczej pozostałby jakiś ślad w postaci doniesień lub relacji choćby w lokalnej prasie.

O ile inicjatywy zorganizowania igrzysk na wzór starogrecki nie udało się zrealizować w pierwszej połowie XIX wieku, to głównie za sprawą Evangelisa Zappasa (1800–1865) w 1859 roku w Atenach odbyła się pierwsza edycja tzw. igrzysk panhelleńskich, zwanych także w literaturze anglojęzycznej *The Olympiads of Zappas, Greek National Olympic Games*<sup>26</sup> lub *Zappas Olympics*. Nawiązanie w nazwie wydawnictwa do nazwiska Zappasa nie było przypadkowe, bowiem to właśnie on zainicjował i sfinansował pierwszą edycję igrzysk. Evangelis (lub Evangelos) Zappas był weteranem walk o niepodległość Grecji w 1821 roku, a trzy lata później został awansowany do stopnia brygadiera. W 1831 roku przeprowadził się do Bukaresztu, gdzie rozpoczął pracę jako chirurg, a następnie zajął się zarządzaniem i dzierżawą majątków będących w posiadaniu miejscowych klasztorów greckich. Sprawne zarządzanie i powiększenie zasobów finansowych Zappasa doprowadziło do wykupu dzierżawionych przez niego ziem na własność. Oprócz uprawy ziemi grecki przedsiębiorca wraz ze swym kuzynem – Konstantinosem, rozpoczęli działalność handlową, co w krótkim czasie doprowadziło do zgromadzenia pokaźnego majątku. W międzyczasie Zappas z zainteresowaniem śledził działalność Soutsosa na rzecz zorganizowania igrzysk i prawdopodobnie już w 1843 roku z pobudek patriotycznych i w związku z nadaniem konstytucji państwu greckiemu przez króla Ottona wyraził chęć zorganizowania igrzysk na wzór starożytny, informując o tym grecki konsulat w Bukareszcie. Jednak dopiero na początku czerwca 1856 roku do greckiego ministerstwa spraw zagranicznych dotarł list z Rumunii, w którym przedstawiono propozycję Zappasa. Grecki przedsiębiorca oferował wybudowanie hali wystawowej i organizację igrzysk w dzień święta niepodległości Grecji – 25 marca 1857 roku. Nie doczekawszy się jednak odpowiedzi, w lipcu zdeponował w greckim konsulacie w Bukareszcie sumę 2000 florenów austriackich na potrzeby organizacji igrzysk, co miało niejako potwierdzać jego intencje<sup>27</sup>.

Wkrótce potem Zappas nawiązał współpracę z greckim ministrem spraw zagranicznych Alexandrosem Rhangavisem w celu ustalenia warunków przekaza-

<sup>25</sup> E. Kantzidou, *Dimitrios Vikelas: his contribution to the first international Olympic games of Athens in 1896*, [w:] *International Olympic Academy, 12th International Seminar on Olympic Studies for postgraduate students*, Olympia 2004, s. 249.

<sup>26</sup> D.C. Young, *Evangelis Zappas: Olympian Sponsor of Modern Olympic Games*, „Nikephoros” 2005, Bd 18, s. 275.

<sup>27</sup> K. Georgiadis, *Olympic Revival: The Revival of the Olympic Games in Modern Times*, Athens 2003, s. 33.

nia darowizny. W 1857 roku Zappas poprosił ministra o projekt budowy i wycenę Hali Olimpijskiej, która miała powstać na potrzeby igrzysk. Zakładano bowiem, że oprócz konkurencji sportowych zostanie zorganizowana wystawa produktów przemysłowych i rolnych. W następnym roku przystąpiono do sporządzenia ogólnych założeń igrzysk i przepisów, które ostatecznie zostały zawarte w wydanym 19 sierpnia 1858 roku dekreście królewskim. W poszczególnych artykułach przedstawiono, że igrzyska będą rozgrywane w Atenach co cztery lata, w każdą z czterech niedziel października. Miały one nawiązywać do tradycji antycznej, ich kluczowym elementem miało być jednak również wyłonienie i nagrodzenie (pieniężne) Greków najbardziej zasłużonych dla rozwoju rodzimej literatury i publicystyki, rolnictwa oraz przemysłu, celem wytworzenia atmosfery szlachetnej rywalizacji między greckimi przedsiębiorcami i filantropami. Wpisywało się to w zjawisko promowania rozwoju rodzimej gospodarki, wytwórczości, wzmacniania potencjału ekonomicznego Grecji (w pewnej analogii do pozytywistycznej „pracy organicznej” i „pracy u podstaw” na ziemiach polskich), a że było realizowane rękoma prywatnego przedsiębiorcy, nie mogło chyba nie zostać poparte przez władze państwowe, nawet jeśli wsparcie dla idei igrzysk panhelleńskich nie było początkowo wystarczająco energiczne. Zastanawiającą kwestią jest jedynie krótka wzmianka o konkurencjach sportowych, obejmujących wyścigi konne oraz konkurencje lekkoatletyczne, choć biorąc pod uwagę, iż sport jako zjawisko społeczne w połowie XIX wieku dopiero raczkował, zwłaszcza poza światem anglosaskim, nie zaskakuje ona tak bardzo. Igrzyska zostały rozegrane w listopadzie 1859 roku, przynosząc – mimo pewnego pośpiechu i bałaganu organizacyjnego, z którego zdawali sobie sprawę sami organizatorzy – relatywny sukces, zwłaszcza jeśli weźmiemy pod uwagę ich odbiór i zainteresowanie greckiej publiczności<sup>28</sup>.

Kolejne igrzyska panhelleńskie odbyły się już po śmierci ich *spiritus movens*, Evangelosa Zappasa, zmarłego w 1865 roku. Z przyczyn politycznych niemożliwe okazało się ich regularne rozgrywanie co trzy lub cztery lata, jak początkowo planowano. Dzięki zaangażowaniu wspomnianego kuzyna Zappasa, Konstantinosa, i akceptacji rodziny królewskiej kolejne igrzyska, pod wieloma względami podobne do pierwszych (nawiązanie do symboliki antycznej, nagradzanie zwycięzców, konkurencje sportowe nawiązujące do starożytności), zaplanowano i z powodzeniem rozegrano w październiku 1870 roku na stadionie panatenajskim. Pod względem organizacyjnym, w opinii historyków, udały się one lepiej niż pierwsze, choć nie obyło się bez potknięć. Relatywny sukces tych zawodów stał się impulsem kampanii na rzecz budowy infrastruktury sportowej i rozwoju powszechnych programów wychowania fizycznego w Grecji. Kolejne nowożytnie igrzyska panhelleńskie, na fali sukcesu, planowano pierwotnie już na rok 1871,

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<sup>28</sup> Tamże, s. 36.

ale ostatecznie doszły one do skutku w maju 1875 roku, ponownie połączone z wystawą przemysłową, na którą napłynęły setki zgłoszeń wystawców.

W opinii współczesnych igrzyska 1875 roku były mniej udane od tych rozegranych pięć lat wcześniej. Na mniej entuzjastyczny odbiór zawodów wpłynęła niska frekwencja zawodników (zwłaszcza w konkurencjach sportowych), opóźnienia w realizacji programu zawodów i nierozegranie wszystkich zapowiadanych zmagania<sup>29</sup>.

Ostatnie, jak się miało później okazać, nowożytnie igrzyska panhelleńskie rozegrano na przełomie roku 1888/89 w związku z finalizacją budowy hali widowiskowo-sportowej, nazwanej od nazwisk fundatorów „Zappeion” i zaprojektowanej przez duńskiego architekta Theofila Hansena. Ponownie do rywalizacji stanęli sportowcy (wyłącznie Grecy, w tym przedstawiciele licznej diaspory greckiej, rywalizowali w kwietniu i maju 1889 roku), artyści i przemysłowcy<sup>30</sup>. Ze względu na kłopoty finansowe fundatorów, śmierć Konstantinosa Zappasa w 1892 roku oraz działalność Pierre’a de Coubertina i narodziny Międzynarodowego Komitetu Olimpijskiego, igrzyska panhelleńskie nie miały już nigdy później zostać rozegrane.

## Igrzyska panhelleńskie w XIX-wiecznej prasie polskiej

Zainteresowanie polskiej prasy igrzyskami zorganizowanymi czterokrotnie w latach 1859–1889 z inicjatywy Evangelosa Zappasa należy uznać za stosunkowo niewielkie. W wyniku kwerendy prasowej zbiorów Biblioteki Jagiellońskiej w Krakowie, Biblioteki Uniwersyteckiej w Warszawie oraz Biblioteki Śląskiej w Katowicach udało się odnaleźć 25 passusów prasowych (wzmianek, notatek) odnoszących się do tych wydarzeń, publikowanych na łamach 10 gazet ukazujących się w Galicji oraz Królestwie Polskim, a konkretnie we Lwowie („Gazeta Lwowska”, „Gazeta Narodowa”, „Przegląd Polityczny Powszechny”), w Krakowie („Czas”), Cieszynie („Gwiazdka Cieszyńska”) oraz w Warszawie („Kurier Warszawski”, „Kronika Wiadomości Krajowych i Zagranicznych”, „Gazeta Codzienna”/ „Gazeta Polska”, „Kurier Codzienny”, „Gazeta Rządowa Królestwa Polskiego”). Jak już wspomniano, nie udało się odnaleźć żadnych wzmianek o tych wydarzeniach w prasie polskiej zaboru pruskiego (od 1871 r. niemieckiego).

Ze względu na relatywnie niewiele stosunkowo krótkich notatek odnoszących się do igrzysk panhelleńskich nie poddano analizie kwestii wpływu proweniencji ideowej i sympatii politycznych danego dziennika na sposób analizowania tego wydarzenia. Ponadto przedmiotem badania nie był wpływ bieżącej sy-

<sup>29</sup> Tamże, s. 43–46.

<sup>30</sup> Tamże, s. 47–51.

tuacji społeczno-politycznej w Galicji i Królestwie Kongresowym na sposób relacjonowania wspomnianego wydarzenia sportowo-kulturalnego. W przypadku tak skromnego materiału źródłowego tego typu pytania, zadawane zwyczajowo w pracach praso- i medioznawczych, nie miałyby zastosowania.

Stosunkowo najwyższe zainteresowanie wywołały pierwsze nowożytne igrzyska panhelleńskie (w prasie z epoki konsekwentnie nazywane po prostu igrzyskami olimpijskimi), którym poświęcono 14 wzmianek, a więc więcej niż pozostałym tego typu imprezom łącznie. W grę mógł wchodzić tu efekt nowości, zainteresowanie oryginalną inicjatywą nawiązującą do tradycji starożytnej, którego w późniejszych latach mogło już nie być. Nie były to jednak bardzo obszerne teksty, stanowiły raczej ciekawostkę ze świata niż główny temat danego wydania gazety, poświęconego najczęściej sprawom politycznym (np. działalności dyplomatycznej Królestwa Sardynii i Piemontu, które, jak się miało później okazać, stanowiło uwerturę do zjednoczenia Włoch). Przedstawiano w nich chociażby samą inicjatywę i omawiano krótko postać jej inicjatora, charakter i program przedsięwzięcia. Pierwsze informacje dotyczące podjęcia inicjatywy organizacji igrzysk panhelleńskich pojawiły się w polskiej prasie w drugiej połowie września 1858 roku i zapewne miały związek ze wspomnianym wcześniej dekretem królewskim wydanym w połowie sierpnia tegoż roku. Najstarszą odnalezioną informacją jest wzmianka zamieszczona w „Gazecie Lwowskiej” z 18 września 1858 roku:

Grecja (Budowa gmachów szkolnych – Wznowienie igrzysk olimpijskich) Ateny 4 września. [...] Królowa rejentka podpisała przed kilkoma dniami rozporządzenie, które zamierza odnowić starodawne igrzyska olimpijskie. Powodem tego rozporządzenia był znaczny dar bawiącego w Multanach Peloponeza Evangelosa Zappa, złożony z 400 akcji greckiego towarzystwa żeglugi parowej i z 3000 dukatów holenderskich, z których jak jeden tak drugi dar na ten cel przeznaczono. Ale według ostatniego rozporządzenia „Olimpiaki” te zależą na tym, że w czterech po sobie idących niedzielach w miesiącu październiku co trzy lata będą rozdawane nagrody za przemysłowość, agronomię i chów bydła. Same nagrody będą się składać ze złotych i srebrnych medali i wieńców. Medale mieć będą na prawej stronie wizerunek króla, a na odwrotnej nazwisko dawcy nagrody „Zappa”, a rozdawać je ma sąd umyślnie na to wyznaczony. Z rozdawaniem tych nagród połączone będą krajowe zabawy i wyścigi, walki szermierskie na sposób starożytny, gonitwy końskie, śpiew i muzyka, jakie jeszcze po dziś dzień na prowincjach w starodawny sposób wyprawiają. Rozdawanie nagród i igrzyska będą się odbywać w stadium ateńskim, które na ten zamiar urządzają<sup>31</sup>.

Kolejne informacje dotyczące podjęcia inicjatywy organizacji igrzysk w stolicy Grecji pojawiły się na przestrzeni kilku dni odpowiednio w „Kurierze Warszawskim”, „Przeglądzie Politycznym Powszechnym” i „Gwiazdce Cieszyńskiej”. Odnalezione wzmianki źródłowe pozwalają sądzić, iż igrzyska zorganizowane z inicjatywy Zappasa nie były, zdaniem dziennikarzy, wydarzeniem szczególnie

<sup>31</sup> „Gazeta Lwowska” 1858, nr 214, s. 855. We wszystkich cytatach z prasy zachowano pisownię z epoki.

wysokiej rangi. Świadczy o tym chociażby powyższy fragment i zestawienie informacji o nich z inwestycją w budowę gmachów szkolnych w Atenach świadczącą, jak się wydaje, o relatywnej równoważności tych wydarzeń (szczególnie, iż we wzmiankowanych zestawieniach igrzyska olimpijskie wspominane są jako wydarzenia drugie w kolejności), bądź ze śmiercią cenionych osobistości publicznych:

GRECJA: Ateny 4 września: Georgios Maurocordatos, profesor prawa francuskiego na tu-tejszym uniwersytecie, zmarł. -- Pewien bogaty Grek, rodem z Epiru, ofiarował Rządowi do rozporządzenia znaczną sumę dla wznowienia igrzysk olimpijskich. Królowa podpisała już podobno stosowny dekret. Z igrzyskami tymi ma być połączona wystawa przemysłowa oraz rozdanie medalów i nagród pieniężnych<sup>32</sup>.

W prasie polskiej podkreślano, iż ta nowa inicjatywa ma być cyklicznym wydarzeniem odwołującym się do tradycji starożytnej, ale dostosowanym do współczesnych realiów i stanowiącym narzędzie integracji współczesnych Greków oraz impuls do rozwoju ich gospodarki. W tym duchu pisano w „Przeglądzie Politycznym Powszechnym”:

Ateny, 4 września. Bawiący w Multanach Grek Evangelos Zappa [pisownia oryg. – A.W., K.P.] ofiarował rządowi greckiemu 400 akcji towarzystwa żeglugi parowej i 3000 dukatów w złocie, który to dar przeznaczony został na odnowienie starożytnych igrzysk olimpijskich. Te igrzyska mają się odbywać co trzy lata: stanowić je będą przy zabawach narodowych, wyścigi, walki szermierskie, gonitwy konne, śpiew i muzyka, rozdawanie nagród za przemysłowość, zasługi w agronomii i chów bydła<sup>33</sup>.

W „Gwiazdce Cieszyńskiej” z kolei podano nieco więcej informacji na temat starożytnego rodowodu olimpijskich agonów, a następnie przedstawiono skróto-we założenia organizacyjne pierwszej edycji igrzysk:

ROZMAITOŚCI. – Igrzyska Olimpijskie, które około roku 800 przed narodzeniem Chrystusa się poczęły i u wszystkich starożytnych Greków w tak wielkim były poważaniu, iż podług nich lata greckiej rachuby (olimpiades) liczyli – mają być znowu odnowione. Królowa grecka Amalia (w zastępstwie męża nieobecnego) podpisała dekret zaprowadzający na nowo te igrzyska, a Grek nazwiskiem Ew[angelos] Zappas, rodem z Peloponezu, mieszkający obecnie w Mołdawii, ofiarował na ten cel pieniężne środki. Ponieważ jednak wiek nasz głównie materialnym korzyściom hołduje, więc i te nowe olimpie zależeć będą na tym: że co trzeci rok w październiku, przez trzy po sobie następujące tygodnie, będą uroczyste rozdzielane nagrody dla tych, którzy się o gospodarstwo, przemysł i handel zasłużyli. Z tym głównym celem złączą się jednak wszystkie nowo i starogreckie igrzyska narodowe, jako to: pasowanie się z sobą dwóch przeciwników z ciałem obnażonym i olejem namaszczone, gonitwy konne, muzyka ze śpiewami narodowymi itp. Obchody te będą się odbywały w Atenach, w gmachu zwanym „stadium”<sup>34</sup>.

Następne wiadomości dotyczące zamiaru wznowienia igrzysk pojawiły się w kwietniu 1859 roku. W „Kronice Wiadomości Krajowych i Zagranicznych”

<sup>32</sup> „Kurier Warszawski” 1858, nr 248, s. 1331.

<sup>33</sup> „Przegląd Polityczny Powszechny” 1858, nr 51, s. 3.

<sup>34</sup> „Gwiazdka Cieszyńska” 1858, nr 39, s. 311.

zwracano uwagę, iż zaangażowanie rządu greckiego w to przedsięwzięcie świadczy o zaniechaniu przez niego przygotowań do wojny:

Niektóre oznaki przygotowań wojennych ze strony rządu helleńskiego kazały się domyślać wojennych zamiarów ze strony rządu ateńskiego. Chociażby w rzeczy samej podobne istniały zamiary, to bynajmniej nie zagrażałyby pokojowi europejskiemu. Wszelako zapewnić możemy według najświeższych wiadomości, że usposobienie rządu greckiego jest nader pokojowe. Zajmują się wprawdzie w Atenach bardzo czynnie, ale wznowieniem igrzysk olimpijskich i wystawą przemysłowo-rolniczą. Uroczystości te mają nastąpić w październiku, będą szczególniejsze w swoim rodzaju i zapewne zgromadzą wielu miłośników starożytności<sup>35</sup>.

W niemal identycznym tonie pisano o igrzyskach w warszawskiej „Gazecie Codziennej”:

Niektóre dzienniki donosiły o pewnym ruchu w Atenach wskazującym, że rząd grecki obawia się lub przewiduje na wschodzie wypadki, które go na niebezpieczeństwo wojny narażać mogą; chociaż wypadki te nie mogłyby wpłynąć na zamieszanie pokoju europejskiego, z zadowoleniem przychodzi nam donieść, że odbieramy z tamtych stron zupełnie zaspakajające wiadomości. Czynnie bardzo zajmują się w Atenach uorganizowaniem igrzysk olimpijskich i wystawy krajowej rolniczej i przemysłowej. Te uroczystości, które odbędą się w Październiku, wielce mogą być interesującymi dla lubowników starożytności<sup>36</sup>.

Podobne zjawisko miało miejsce 19 kwietnia, gdyż tego dnia cztery warszawskie gazety zawarły w swych wydaniach informacje o zamiarze wznowienia igrzysk olimpijskich w Grecji i postępkach organizatorów w tej kwestii. „Kronika Wiadomości Krajowych i Zagranicznych”, powołując się na korespondencję belgijskiej gazety „Independence Belge”, donosiła:

Wspominaliśmy przed niedawnym czasem o zamiarze rządu greckiego zaprowadzenia igrzysk olimpijskich. Otóż obecnie rzecz ta stanowczo zadecydowaną została. Uroczystości te narodowe jak niegdyś w starożytnej Grecji odbywać się będą co lat cztery. Wystawa sztuk pięknych i dział przemysłu, uroczystości religijne, przedstawienia teatralne dodadzą wielkiego blasku tym nowo greckim olimpijskim igrzyskom<sup>37</sup>.

W podobnym tonie pisano na łamach „Kurier Warszawski”:

Z Grecji donoszą, że projekt przywrócenia Igrzysk Olimpijskich stanowczo jest zdecydowany przez rząd tameczny. Uroczystości te odbywać się będą co lat 4, i połączone zostaną z wystawą sztuk i przemysłu, ceremoniami religijnymi i przedstawieniami teatralnymi<sup>38</sup>

czy też „Gazety Rządowej Królestwa Polskiego”:

Wiadomości zagraniczne. Z Aten donoszą o zamiarze rządu Helleńskiego wznowienia igrzysk olimpijskich. Wielkie te uroczystości narodowe odbywać się będą co lat cztery,

<sup>35</sup> „Kronika Wiadomości Krajowych i Zagranicznych” 1859, nr 88, s. 3.

<sup>36</sup> „Gazeta Codzienna” 1859, nr 88, s. 2.

<sup>37</sup> „Kronika Wiadomości Krajowych i Zagranicznych” 1859, nr 105, s. 4.

<sup>38</sup> „Kurier Warszawski” 1859, nr 105, s. 536.

w połączeniu z wystawą sztuk i przemysłu Grecji, uroczystości religijnych i przedstawień teatralnych<sup>39</sup>.

Osobliwy błąd pojawił się natomiast w informacji zamieszczonej w „Gazecie Codziennej”, w której napisano, że igrzyska olimpijskie ma wskrzesić rząd... turecki:

Projekt o którym niedawno wspominaliśmy, wskrzeszenia igrzysk olimpijskich, przez rząd turecki stanowczo zatwierdzonym został. Te wielkie uroczystości narodowe, co cztery lat będą miały miejsce. Z nimi połączone być mają wielkie wystawy produktów sztuki i przemysłu; nabożeństwa zaś i przedstawienia<sup>40</sup>.

Warto w tym miejscu zauważyć, iż w prasie polskiej nie było jedności co do tego, czy powstająca inicjatywa będzie się miała odbywać co trzy, czy też co cztery lata. To jednak rozumiałe o tyle, iż zgodności w tej kwestii nie było zapewne wśród samych organizatorów, a – jak wiemy – zmagania ostatecznie nie przybrały nigdy charakteru cyklicznego. Inną kwestią są w niektórych przypadkach niemal identyczne notatki podawane przez poszczególne gazety. Wynikało to zapewne z tego, że redakcje korzystały z tych samych zagranicznych tytułów prasowych, by podać polskim czytelnikom bieżące informacje z innych krajów. To zjawisko miało również miejsce w późniejszych wzmiankach dotyczących relacji z przebiegu poszczególnych edycji igrzysk.

Po doniesieniach o zamiarze wznowienia igrzysk i postępach w przygotowaniu do imprezy, kolejne relacje prasowe dotyczyły już przebiegu pierwszych igrzysk w 1859 roku. Najwcześniej doniesienie na ten temat zamieściła „Gwiazdka Cieszyńska” w numerze z 19 listopada:

-- Starodawne igrzyska olimpijskie, któremi niegdyś Grecja słynęła, znowu tam zostały odświeżone. Po upływie wielu wieków, odnowiono je w roku bieżącym d. 30 października. Wszelako dodano im cechę tegoczesną; bo połączono je z wystawą rolniczo-przemysłową, którą się igrzyska rozpoczęły. Potem nastąpiły prawdziwe igrzyska olimpijskie, na wzór starożytnych Greków, tj. spółzawodnictwo w poezji, śpiewie, muzyce i ćwiczeniach cielesnych<sup>41</sup>.

Najdłuższą relację z pierwszych nowożytnych igrzysk panhelleńskich zamieszczono w grudniu 1859 roku w „Gazecie Lwowskiej”. W relacji tej wspomniano o igrzyskach jako relatywnie udanym wydarzeniu, które przyniosło duże zainteresowanie publiczności i miało pełne poparcie rodziny królewskiej, choć nie obyło się bez potknięć organizacyjnych, które, jak wierzone, zostaną wyeliminowane w kolejnych edycjach:

(Wznowienie igrzysk olimpijskich w Grecji) W Atenach odbyły się 27go listopada na wzór igrzysk olimpijskich nowo zaprowadzone ćwiczenia gimnastyczne. Widzów było przeszło

<sup>39</sup> „Gazeta Rządowa Królestwa Polskiego” 1859, nr 86, s. 586.

<sup>40</sup> „Gazeta Codzienna” 1859, nr 105, s. 3.

<sup>41</sup> „Gwiazdka Cieszyńska” 1859, nr 46, s. 371.



20.000, a igrzyska odbyły się na placu Ludwika, w pobliżu gościńca pyrejskiego, i składały się z biegu pojedynczego i zwrotnego, tudzież z siedmiokrotnego biegu okrężnego, z ciskania krążków ołowianych (discus) tak w górę, jak i na odległość prostą, ze skakania zwyczajnego, z przeskakiwania rowów, ze skoków wykonanych w górę za pomocą przedmiotów elastycznych, z balansowania, tudzież z ciskania do celu i włożenia na drzewa. Zwycięzcę w którymkolwiek igrzysku uwieńczono różdżką oliwną i w miarę przełamywania większych trudności nagradzano 50–100 i 280 drachmami, którą to nagrodę otrzymywał uwieńczony z rąk samego króla zaraz po wydaniu wyroku przez sędziów przynależnych. Najwyższą nagrodą przysądzono każdemu razem temu, który w siedmiokrotnym biegu okrężnym pierwszy stanął u mety. Nazwisko jego i miejsce urodzenia obwołano głośno i wobec całego zgromadzenia. Zapaśnicy zebrali się ze wszystkich prowincji kraju, a głównie byli to uczniowie, wojskowi i majtkowie. Igrzyska te trwały od godziny 1szej z południa do 4tej po południu, po czym woźny obwołał dawne wezwanie greckie: „Ludu, idź do domu”. Dla łatwiejszego odróżnienia, ubrani byli wszyscy zapaśnicy w bluzy kolorowe, na głowę nie kładli żadnego nakrycia, i tylko skroń mieli przewiązaną lekką przepaską dla podtrzymania włosów. Wszyscy mieszkańcy wzięli szczerzy udział w tych zabawach, i zachęcali walczących, a bliskich zwycięstwa głośnymi okrzykami i oklaskami, by wytrwali do końca i usiłowania swe podwoili. Król i królowa przypatrywali się igrzyskom tym do końca i wyrazili zwycięzcy radość swą i szczerzy współudział. Niektóre niedogodności nie powtórzą się już przyszłą razą – roku 1863 – a igrzyska będą uszlachetnione i lepiej urządzone. Bluzy też zdają się być bardzo niestosowne. Również i miejsce widowni nie odpowiada zamiarowi. Amfiteatr jest za mały dla tylu widzów, z których większa część stojąc na zrównanem i nigdzie nie podniesionem miejscu nic prawie z tych igrzysk nie widziała. Zwierzchności uznały też natychmiast tę niedogodność i postanowiły na przyszłość, że igrzyska i zabawy te odbędą się w dawnym stadium, którego ławy do siedzenia mogą być urządzone z wielką wygodą dla widzów<sup>42</sup>.

W styczniu 1860 roku niemal identyczną, nieco skróconą relację zamieściły na swoich łamach „Gazeta Codzienna”<sup>43</sup> oraz „Kurier Warszawski”<sup>44</sup>. Co znamienne, „Kurier” zamieścił swą relację w rubryce o tytule „Rozmaitości”, a Gazeta „Drobiazgi”, co mogło świadczyć o traktowaniu całego przedsięwzięcia jako relatywnie nieistotnego z polskiej perspektywy i w kategorii zagranicznej ciekawostki.

Następna edycja igrzysk odbyła się po przeszło 10 latach i również w tym przypadku polskie gazety informowały o tym. W porównaniu jednak do igrzysk z 1859, te z 1870 roku były opisywane nieco rzadziej. Gazetą, która jako pierwsza zamieściła na swych łamach w rubryce „Wiadomości, literackie, artystyczne i naukowe” (i to na stronie tytułowej) zapowiedź o organizacji igrzysk i ich dosyć szczegółowy program, była „Gazeta Polska”:

Donoszą z Aten, że ogłoszono w tem mieście program igrzysk Olimpijskich, mających zakończyć rozpoczynającą się d. 1 października wystawę przemysłową. Program ułożony jest podług planu hojnego założyciela igrzysk, nieboszczyka Zappas. Miejsce na igrzyska i ćwiczenia gimnastyczne obrano w Stadjum Panatenejskiem (Hippodrom). Dnia 18 paź-

<sup>42</sup> „Gazeta Lwowska” 1859, nr 289, s. 1158.

<sup>43</sup> „Gazeta Codzienna” 1860, nr 9, s. 3.

<sup>44</sup> „Kurier Warszawski” 1860, nr 14, s. 70.

dziennika odbędą się ćwiczenia gimnastyczne: skakanie, bieganie, rzucanie, walczenie, jazda, wdzieranie się na wysokości, walka na pięści i fechtunek. Występujący będą ubrani w starogreckie stroje. Dnia 25 października w porcie Phaleras odbędą się: walki pływaków i statków, napady, pływanie na wyścigi ludzi i statków, i starogreckie walki morskie. Zwycięzcy otrzymają stosowne nagrody<sup>45</sup>.

Parę dni później informacje o planowanych igrzyskach zamieszczono w „Kurierze Warszawskim” i „Gazecie Narodowej”. W przypadku „Kuriera” doniesienie było dokładnie takie samo, jak w „Gazecie Polskiej”, co nie dziwi, gdyż na samym końcu powołano się właśnie na ten tytuł prasowy jako źródło informacji<sup>46</sup>. Warto zauważyć, iż prawdopodobnie żadna z odnalezionych notatek prasowych nie została sporządzona *in situ*, pochodzą one jedynie z przedruków informacji z prasy zagranicznej, głównie zachodnioeuropejskiej (niemieckiej, belgijskiej itp.). To, jak się wydaje, najzupełniej zrozumiałe. W XIX wieku, w warunkach mniejszej mobilności społecznej i większych utrudnień w podróżowaniu wysyłanie korespondenta na drugorzędą (z polskiej perspektywy) imprezę kulturalno-sportową w dalekiej Grecji, nazywaną wprawdzie igrzyskami olimpijskimi, ale przecież w okresie, gdy określenie to nie odnosiło się do żadnej uniwersalnej, światowej idei, byłoby działaniem niegospodarnym i nieracjonalnym. Niektóre relacje miały charakter głównie informacyjny, utrzymywały się jednak w nurcie relacjonowania igrzysk jako specyficznej ciekawostki. W związku z powyższym korespondenci nie weryfikowali szczególnie starannie swoich informacji i nie wspominali chociażby o zawodach sportowych (czy też *quasi*-sportowych), jakie pierwotnie planowano rozegrać w ramach igrzysk, a z których ostatecznie zrezygnowano. W tym duchu została utrzymana wspomniana relacja z numeru 222 „Gazety Polskiej” i powielona w numerze 225 „Kuriera Warszawskiego” z 1870 roku, informująca między innymi o planowanych zmaganiach w sportach wodnych, które nie doszły ostatecznie do skutku ze względu na pogodę.

W „Gazecie Narodowej” z kolei dziennikarze pozwolili sobie nawet na jawne głosy krytyki samej idei, wyrażając opinie, że próby wskrzeszania tradycji olimpijskiej, czy szerzej – jakiegokolwiek spuścizny antycznej, w nowożytnej Grecji są groteskowe:

W Atenach odbędą się w pierwszych dniach przyszłego miesiąca igrzyska olimpijskie na wzór starożytnych. Poprzedzi je obchód najnowocześniejszy, bo wystawa przemysłowa. Na arenę dla zabaw i ćwiczeń gimnastycznych urządzono wielką ujeżdżalnię ateńską, tzw. hipodrom. Igrzyska te składać się będą z wyścigów pieszych i konnych, przesadzania rowów i rzucania do celu, wspinania się, zapasów ręcznych i pojedynków na broń, przy czym zapaśnicy występować będą w ubiorach starogreckich. Program obejmuje również igrzyska na wodzie, mianowicie w porcie Pireus odbędzie się walka łodzi i majtków, wyścigi pływania i żeglowania, jako też starożytne manewry okrętowe. Dla zwycięzców

<sup>45</sup> „Gazeta Polska” 1870, nr 222, s. 1.

<sup>46</sup> „Kurier Warszawski” 1870, nr 225, s. 5.

oznaczone są nagrody. W każdym razie będzie to smutna satyra – ta stara Grecja na arenie nowożytnych Aten<sup>47</sup>.

Niektóre sposoby omówienia igrzysk wskazują wręcz na swego rodzaju deprecjonowanie czy lekceważenie tego wydarzenia. W 1870 roku na łamach „Kuriera Warszawskiego” igrzyska olimpijskie zestawione zostały z sensacyjną informacją, iż w Kalifornii chodzą pogłoski o dziwnej istocie przypominającej nieco małpę, a nieco człowieka (której, nawiasem mówiąc, poświęcono objętościowo cztery razy więcej miejsca). W tym kontekście zestawienie igrzysk z belgijską wystawą muzealną przedstawiającą szczątki pól bitewnych czy zamieszkami na Dunaju w Austro-Węgrzech nie wydaje się specjalnie zaskakujące. Sama wzmianka była dosyć krótka:

W Atenach w dniu 27 z. m. odbyły się zapowiadane od dawna igrzyska olimpijskie na wzór starożytnych. Królowa rozdelała nagrody zwycięzcom. Na tę olimpijską zabawę patrzyło kilkanaście tysięcy Hellenów i Hellenek, z ciekawością niewątpliwie taką samą, jak ich przodkowie<sup>48</sup>.

Ostatnie doniesienie, w którym informowano o sposobie zakończenia igrzysk, pojawiło się w styczniu 1871 roku na łamach „Gazety Narodowej”:

Igrzyska olimpijskie w Atenach ukończone zostały dnia 11 grudnia uroczystym przedstawieniem tragedii „Leonidas” z francuskiego p. Pichat’a przełożonej umyślnie na język grecki tudzież oryginalnej 3 aktowej komedii greckiej Ateńczyka, p. Vlachosa, pt. „Narzęczony w obłęzeniu”, która odniosła pierwszą premię na tegorocznych „ogonach”. Po przedstawieniu autor otrzymał od komitetu igrzysk olimpijskich złoty wieniec<sup>49</sup>.

Igrzyska panhelleńskie z 1875 roku pozostały niemal zupełnie niezauważone w prasie polskiej. Jediną wzmianką o nich była lakoniczna i krytyczna relacja w krakowskim „Czasie”:

Kilka dni temu, w starym stadium odbyły się igrzyska olimpijskie złożone z wyścigów, z włączenia na maszty, z rzucania dysku itd. Zebrana piętnastotysięczna widownia pozwalała sobie wyobrazić, co musiało być stadium w starożytności. Igrzyska same były źle zorganizowane i całkiem mierne. Nieobecność królewskiej pary na tej uroczystości narodowej była źle uważana i nie wytłumaczyła jej wizyta wielkiego księcia Meklemburg Schwerin<sup>50</sup>.

W kontekście ostatnich igrzysk panhelleńskich, jakie miały miejsce w Atenach na przełomie lat 1888 i 1889, pojawiły się cztery krótkie wzmianki. Miały one jednak inny charakter niż opisujące poprzednie edycje igrzysk. Sama impreza była nazywana wystawą w Atenach, a o igrzyskach olimpijskich wspomniano najczęściej jednozdaniowo lub nawet informowano, że zmienił się rodzaj rywalizacji – ze sportowej na umysłową. Doniesienia sporządzono w takiej formie, że trudno łączyć to wydarzenie z poprzednimi trzema edycjami. Pierwsza

<sup>47</sup> „Gazeta Narodowa” 1870, nr 256, s. 2.

<sup>48</sup> „Kurier Warszawski” 1870, nr 284, s. 4.

<sup>49</sup> „Gazeta Narodowa” 1871, nr 2, s. 3.

<sup>50</sup> „Czas” 1875, nr 143, s. 2.

wzmianka nawiązująca do imprezy dotyczyła jej organizacji i rozpoczęcia budowy na ten cel pałacu wystawowego:

Wystawa w Atenach. W jesieni r. 1887-go odbędzie się w stolicy Grecji czwarta zrzędu wystawa narodowa, której celem będzie wykazanie postępu osiągniętego na polu krajowej produkcji, sztuki i przemysłu od r. 1875-go. Budowa pałacu wystawowego, której kosztą pokrywa specjalnie w tym celu zapisany fundusz przez bogatego patriotę greckiego Evangelisa Zappa, zmarłego w Rumunii, została już rozpoczęta<sup>51</sup>.

Zapowiedzi samej wystawy pojawiły się w maju 1888 roku, najpierw w „Kurierze Codziennym”:

Wystawa w Atenach. Z okazji 25-cioletniego jubileuszu panowania królewskiego odbędzie się w październiku, krajowa wystawa w Atenach. Lubo wystawa obejmie przeważnie plody ziemiańskie, jednak program jej nie wyklucza charakteru artystycznego, który wystawa uzyska, przez wprowadzenie zabaw w stylu i na wzór igrzysk olimpijskich urządzań<sup>52</sup>,

a następnie w „Kurierze Warszawskim”:

Wystawa z igrzyskami. Na jesieni r. b., z powodu 25-letniej rocznicy panowania króla Jerzego, otwartą zostanie w Atenach wystawa krajowa dla rolnictwa, przemysłu i nauki. Wystawa powyższa połączona być ma z igrzyskami wedle starej modły greckiej<sup>53</sup>.

Ostatnią wzmianką na tematy czwartych igrzysk panhelleńskich było podsumowanie wydarzenia w „Gazecie Polskiej”:

Igrzyska olimpijskie przywrócone zostały w nowoczesnej Grecji, ale walkę przeniesiono na dziedzinę umysłową, a urząd sędziów powierzono akademikom ateńskim oraz innym uczonym. Niedawno areopag ten ukoronował p. Kleona Rangabó, heleńskiego chargé d'affaires w Sofii, za dzieło p. t. „Księżniczka Aten”, którego treść rozegrywa się w epoce obłężenia Grecji przez Francuzów. Srebrny wieniec wawrzynowy wręczony został sędziwemu ojcu nagrodzonego autora<sup>54</sup>.

Warto zauważyć, iż trzecia edycja nowożytnych igrzysk panhelleńskich przypadła na okres bezpośrednio przed rozpoczęciem tzw. Wielkich Wykopalisk w Olimpii, które odbywały się w latach 1875–1881 pod kierunkiem Ernsta Curtiusa i Friedricha Adlera<sup>55</sup>. Ta ogromna inicjatywa naukowa mogła w naturalny sposób zwiększyć zainteresowanie zarówno historią, jak i teraźniejszością Grecji w prasie polskiej (zagadnienie to, nawiasem mówiąc, wymaga odrębnych badań). Wydaje się jednak, iż w przypadku igrzysk panhelleńskich tak się nie stało. Większym zainteresowaniem cieszyły się same prace archeologiczne, zamieszczano zapowiedzi związane z rozpoczęciem wykopalisk, ich przebiegiem

<sup>51</sup> „Gazeta Polska” 1885, nr 137, s. 3.

<sup>52</sup> „Kurier Codzienny” 1888, nr 123, s. 4.

<sup>53</sup> „Kurier Warszawski” 1888, nr 127, s. 5.

<sup>54</sup> „Gazeta Polska” 1889, nr 111, s. 3.

<sup>55</sup> B. Fellmann, *The History of Excavations in Olympia*, „Olympic Review” 1973, nr 64–65, s. 109–118, 162.

i zakończeniem. Najwięcej doniesień pojawiało się w prasie galicyjskiej. Prawdopodobnie po raz pierwszy wspomniano o tym przedsięwzięciu już na początku 1874 roku<sup>56</sup>, a po raz ostatni w krakowskim „Czasie” w 1884 roku<sup>57</sup>. Był to swego rodzaju artykuł podsumowujący trwające sześć lat prace archeologiczne w Olimpii. Ciężko jednak jednoznacznie stwierdzić, aby informacje o postępach wykopaliskowych w miejscu starożytnych olimpijskich agonów w jakikolwiek sposób wpłynęły na częstotliwość relacji prasowych dotyczących igrzysk panhelleńskich. Kwerenda źródłowa dowiodła, iż ich nie zintensyfikowały, trudno jednak znaleźć również dowody, aby je wyparły. Wpływ na taki stan rzeczy miał fakt, iż wydarzenia te, choć mające miejsce w podobnym okresie, nie działy się jednocześnie. Pierwsza wyprawa związana z wykopaliskami rozpoczęła się przecież we wrześniu 1875 roku, podczas gdy jedyna odnaleziona wzmianka o trzecich igrzyskach panhelleńskich pochodzi z czerwca 1875 roku. Z kolei w przypadku ostatnich igrzysk panhelleńskich mamy do czynienia z sytuacją, w której od ostatniej wzmianki o wykopaliskach, a pierwszej dotyczącej przebiegu igrzysk czwartej edycji upłynęły cztery lata. To okres na tyle długi (nawet biorąc pod uwagę ówczesny, wolniejszy obieg informacji), a problematyka, z perspektywy polskiego czytelnika mimo wszystko dość egzotyczna, iż nie wydaje się zaskakujące, że zwiększone zainteresowanie sprawami greckimi nie przetrwało tego czasu.

Prawdopodobnie ostatnia wzmianka o nowożytnym greckim ruchu panhelleńskiego olimpizmu pojawiła się w prasie polskiej w związku ze śmiercią Konstantinosa Zappasa, kuzyna i spadkobiercy Evangelosa (w gazecie błędnie określonego synem fundatora igrzysk), i stanowi ona specyficzną laudację dla całej rodziny, która zapisała się na kartach historii Hellady:

Rodzina Zappasów należała do rzędu tych rodzin w Grecji, które przez swą cnotę, zasługi i patriotyzm dziedzicznie sobie zdobywały wdzięczność społeczeństwa. [...] Po bohaterskich czynach na polu bitwy nastąpiła praca na polu ekonomicznym, prowadzona rozumnie i racjonalnie, przynosząca olbrzymie dochody z iście książęcej fortuny. Pomimo tego żył on [Evangelos Zappas] jednak nadzwyczaj skromnie, a swych dochodów używał na dobroczynne i humanitarne cele. [...] Koroną zaś jego działalności było powołanie do życia w Atenach dawnych igrzysk olimpijskich. [...] wybudował jego syn [Konstantinos] w Atenach wspaniały pałac, w którym miały się co 4 lata odbywać przemysłowe wystawy. [...] Usiłowania jego obfity plon wydały, setki fabrycznych kominów wzniesiono w Grecji i tysiące rąk znalazło sposób do życia. [...] Takimi byli ludzie, których fortuna wywołała poważny konflikt, zaciekawiający polityków z całej Europy<sup>58</sup>.

Warto w tym miejscu wspomnieć, że informacje o igrzyskach panhelleńskich w polskiej prasie pojawiały się w zdecydowanej większości na przedostatniej lub ostatniej stronie wydania gazety. Wyjątkiem jest informacja o drugiej edycji

<sup>56</sup> „Gazeta Lwowska” 1874, nr 29, s. 3.

<sup>57</sup> „Czas” 1884, nr 270, s. 1.

<sup>58</sup> „Czas” 1892, nr 249, s. 2.

igrzysk zamieszczona w numerze 222 „Gazety Polskiej” na stronie tytułowej. Nigdy natomiast notatka o igrzyskach nie pojawiła się w centrum strony i nie wyróżniano jej specjalną czcionką, by była lepiej zauważalna. Praktycznie wszystkie notatki mają charakter faktograficzny, nie znajdziemy w nich wartości związanych z rywalizacją. Pośrednio można jedynie wydedukować, że szczególnie podczas pierwszej edycji igrzysk dało się zauważyć poczucie greckiej jedności i wspólnoty<sup>59</sup>. Obserwacje te nie muszą wcale świadczyć o tym, iż wartości narodowe, które igrzyska miały konsolidować, i budowę tożsamościowej narracji o przeszłości, ważną z perspektywy nowogreckiej polityki historycznej, a jakiej służyć miały igrzyska Zappasa, udawało się skutecznie promować tylko w 1859 roku. Intuicyjnie wydaje się, że było wręcz odwrotnie, zwłaszcza, że późniejsze edycje uchodziły za lepiej zorganizowane. Natomiast konstatacja ta prowadzi do wniosku, iż dla redaktorów polskich gazet i czasopism igrzyska panhelleńskie były kwestią na tyle drugorzędną, iż ich krótkie, lakoniczne, relacyjne notatki nie były w stanie odzwierciedlić, jak ważną, podnoszącą rangę młodego państwa inicjatywą było dla władz nowożytnych Grecji i pewnej części społeczeństwa przedsięwzięcie Zappasów.

## Zakończenie

Niezwykle trudna jest analiza kwestii, na ile świadomość rozgrywania w Grecji nowożytnych, panhelleńskich igrzysk olimpijskich na wzór starożytny wpływała na rozwój sportu na ziemiach polskich. Wydaje się jednak, iż recepcja tych wydarzeń była niewielka. Wzmianki na łamach popularnych tytułów prasowych – krótkie i lakoniczne – mogły umykać uwadze działaczy polskiego ruchu gimnastycznego. Można pozwolić sobie na hipotezę, że nowożytnie igrzyska panhelleńskie w Grecji pozostały na ziemiach polskich jeśli nie niezauważone, to przynajmniej niedocenione i potraktowane jedynie jako ciekawostka – kuriozum z dalekiego świata. Prawdopodobnie przyczyną tego stanu rzeczy było słabsze na ziemiach polskich niż w innych krajach europejskich zjawisko neohellenizmu, które w Polsce zapoczątkował Gotfryd Ernest Groddeck. Wtórny renesans, jak się niekiedy określa neohellenizm, na ziemiach polskich swoje apogeum osiągnął w latach 20. i 30. XIX wieku głównie za sprawą walk o niepodległość Grecji, udziale w nich Polaków i ówczesnej sytuacji politycznej naszego kraju. Jednymi z głównych przedstawicieli polskiego neohellenizmu byli Adam Mickiewicz, Juliusz Słowacki czy Cyprian Kamil Norwid<sup>60</sup>. W przeciwieństwie natomiast do krajów zachodnich, gdzie zapanowała swoista „moda na Grecję” z koncertami, rautami i zbiórkami datków na rzecz Greków, na ziemiach polskich zjawisko to miało ra-

<sup>59</sup> Zob. „Gazeta Lwowska” 1859, nr 289, s. 1158.

<sup>60</sup> Więcej o neohellenizmie na ziemiach polskich w XIX wieku zob. np. T. Sinko, *Hellada i Roma w Polsce*, Lwów 1933.

czej charakter stonowany i skupiało się w głównej mierze wokół twórczości literackiej, doniesień prasowych, dyskusji czy echa wspomnianego udziału Polaków w walkach Greków z Turkami<sup>61</sup>. Po powstaniu niepodległego państwa greckiego zainteresowanie sprawami dalekiej Hellady na ziemiach polskich osłabło. Wydaje się, iż fascynacja sprawami greckimi nie osiągnęła na ziemiach polskich takiej skali, jak w niektórych obszarach Europy Zachodniej (np. na ziemiach niemieckich), a jej nasilenie w czasie powstania greckiego było w okresie rozgrywania nowożytnych igrzysk panhelleńskich już tylko odległym wspomnieniem, co musiało wpływać zarówno na zmniejszenie zainteresowania nimi, jak i ograniczenie ich inspirującego potencjału dla polskiego ruchu gimnastycznego.

Drugą przyczyną marginalizowania inicjatywy Zappasa był brak wiedzy, z jaką rzeczywistością należy łączyć przedsięwzięcie igrzysk panhelleńskich. Sport, jako sama rywalizacja o potwierdzenie mistrzostwa w danej dyscyplinie i szerzej jako zjawisko społeczne, bowiem w tamtym czasie na obszarze opisywanych zaborów w zasadzie nie istniał. Co prawda w 1867 roku nastąpił przełom w postaci powstania Towarzystwa Gimnastycznego „Sokół” we Lwowie, ale w początkowej fazie działalności bardziej skupiano się w nim na gimnastyce, a zjawisko sportowej rywalizacji w modelu anglosaskim pozostawało na ziemiach polskich praktycznie nieznane. Zresztą słowo „sport” nie pojawiło się w żadnej notatce związanej z igrzyskami panhelleńskimi. Bardziej prawdopodobne, że grecką inicjatywę Zappasa zestawiano, jako podobną, z innymi przedsięwzięciami, które miały dualny charakter: wystawy rolniczo-przemysłowej i zawodów (najczęściej wyścigów konnych). Takie wydarzenia były organizowane na ziemiach polskich, np. w Poznaniu w 1839 roku przez Towarzystwo Ulepszenia Chowu Koni, Rogacizny i Owiec w Prowincji Poznańskiej<sup>62</sup>, Łowiczu w 1858 roku<sup>63</sup> czy też w Lublinie w 1860 i 1901 roku<sup>64</sup>. W prasie polskiej pojawiały się też doniesienia o podobnych wystawach w Europie, np. w Paryżu w 1867 roku<sup>65</sup> czy Wiedniu w 1873 roku<sup>66</sup>. Co więcej, wydarzenia te były nazywane igrzyskami olimpijskimi XIX wieku. Stąd też inicjatywa Zappasa mogła się wpisywać w dobrze już znany na ziemiach polskich nurt wystaw gospodarczo-kulturalnych, połączonych niekiedy z zawodami najczęściej w formie wyścigów konnych – i tak też była traktowana. Weryfikacja przypuszczenia, iż nowożytne igrzyska panhel-

<sup>61</sup> A. Bojarski, *Powstanie Greków...*, s. 21.

<sup>62</sup> *Program pierwszego, przez towarzystwo ulepszenia chowu koni, rogacizny i owiec w prowincji Poznańskiej, urządzonego obchodu, poświęconego wyścigom konnym, wystawie zwierząt i rozdawaniu nagród za celujące dokonane przedsięwzięcia w uprawie łąk i roślin pastewnych na małych posiadłościach włościańskich*, Poznań 1839.

<sup>63</sup> „Kronika Wiadomości Krajowych i Zagranicznych” 1858, nr 285, s. 4.

<sup>64</sup> A. Przegaliński, *Z dziejów wystaw rolniczych. Trzecia Wystawa Rolnicza (1860) i Wystawa Rolniczo-Przemysłowa (1901) w Lublinie*, Lublin, 2012.

<sup>65</sup> „Kalina” 1867, nr 32, s. 14–16.

<sup>66</sup> „Wiarus” 1873, nr 67, s. 2–3.

leńskie nie odegrały większej roli w rozwoju polskiej kultury fizycznej i sportu w czasach pionierskich wymaga dalszych badań.

Podsumowując, nowożytnie igrzyska panhelleńskie, rozegrane z inicjatywy Evangelosa Zappasa czterokrotnie w latach 1859–1889, nie wywołały szczególnie dużego zainteresowania w prasie polskiej w Galicji i Królestwie Polskim. Stosunkowo najwięcej uwagi poświęcono pierwszej edycji tej inicjatywy. W istniejących wzmiankach igrzyska, konsekwentnie nazywane w polskiej prasie olimpijskimi, zestawiano z sensacyjnymi ciekawostkami albo drugorzędnymi (z perspektywy polskiego czytelnika) informacjami. Mimo wszystko jednak impreza ta zaistniała na łamach polskich gazet – informowano o jej programie sportowym i pozasportowym, powiązaniu z wystawą przemysłową, wsparciu rodziny królewskiej dla wydarzenia. Można z dużym prawdopodobieństwem stwierdzić, że kolejne edycje nowożytnych igrzysk panhelleńskich zostały potraktowane niczym znane polskiemu społeczeństwu imprezy o charakterze wystawowym połączone z różnego rodzaju zawodami, i przez to nieco zmarginalizowane – jako kolejna tego typu impreza na obrzeżach Europy. Trudno jednoznacznie stwierdzić, czy świadomość rozgrywania igrzysk panhelleńskich wywarła jakikolwiek wpływ na rodzący się w tych dekadach polski ruch sportowy i gimnastyczny. Zagadnienie recepcji nowożytnych igrzysk panhelleńskich, czy szerzej wszystkich inicjatyw pseudoolimpijskich (przedcoubertinowskich) na ziemiach polskich, wymaga jednak dalszych badań. Z pewnością natomiast można uznać, że części społeczeństwa polskiego zagadnienie szeroko pojętej idei olimpijskiej zostało w jakimś zakresie przybliżone.

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*ścigom konnym, wystawie zwierząt i rozdawaniu nagród za celujące dokonane przedsięwzięcia w uprawie łąk i roślin pastewnych na małych posiadłościach włościańskich*, Poznań 1839, PAN Biblioteka Kórnicka, sygn. 233378.

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**CZĘŚĆ II**  
TEORIA I METODYKA  
WYCHOWANIA FIZYCZNEGO I SPORTU



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## General physical fitness of servicemen as the main element of increasing military-special training

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### Ogólna sprawność fizyczna żołnierzy jako główny element zwiększenia wyszkolenia wojskowo-specjalnego

#### Streszczenie

Wraz z początkiem rosyjskiej agresji na Ukrainę Siły Zbrojne Ukrainy potrzebują znaczących reform i usprawnień zarówno w zakresie uzbrojenia technicznego, jak i reorganizacji struktury ad-

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ministracyjnej zgodnie z wymogami profesjonalizacji i przejścia Sił Zbrojnych na dobrowolną służbę [2, 3, 6].

Szkolenie jakiegokolwiek żołnierza nie może być kompletne, jeśli jest ograniczone jedynie wiedzą na temat posługiwania się sprzętem wojskowym i bronią, oraz umiejętnością posługiwania się nimi. Nieodłącznym warunkiem pomyślnej realizacji zadań zawodowych jest zdolność każdego żołnierza do pełnego wykorzystania mocy sprzętu wojskowego w możliwie najkrótszym czasie [1, 10].

Pilną kwestią jest doskonalenie programów treningu fizycznego wojskowych, które w przyszłości zapewnią jakość zadań zgodną z przeznaczeniem i wykonaniem zadań.

*Cel:* Analiza i poprawa poziomu dynamiki ogólnej sprawności fizycznej żołnierzy z uwzględnieniem celowego wykonywania zadań.

*Wyniki:* Badania wykazały, że na wszystkich etapach eksperymentu poziom ogólnej sprawności fizycznej żołnierzy kontraktowych jest gorszy niż młodych kadetów cywilnych ( $t = 2, 25-2,66$ ;  $p < 0,05$ ). Stwierdzono, że w obu grupach dynamika wskaźników ogólnej sprawności fizycznej jest dodatnia, nie ma natomiast istotnej różnicy, co wskazuje na brak skuteczności dotychczasowego programu rozwoju sprawności fizycznej, niezależnie od kategorii podchorążych, aktualnego programu sprawności fizycznej, kategorii kadetów.

**Słowa kluczowe:** trening fizyczny, wojskowi, Siły Zbrojne Ukrainy, ogólna sprawność fizyczna.

## Abstract

With the beginning of Russia's armed aggression against Ukraine, the Armed Forces of Ukraine need significant reforms and improvements both in technical rearmament and reorganization of the administrative structure in accordance with the requirements of professionalization and the transition of the Armed Forces to staffing on a voluntary basis [2, 3, 6].

The training of any serviceman cannot be complete if it is limited only to knowledge of the use of military equipment and weapons and the ability to use them. An integral condition for the successful completion of professional tasks is the ability of each serviceman to make the most of all the power of military equipment in the shortest possible time [1, 10].

An urgent issue is the improvement of programs for physical training of servicemen, which in the future will ensure the quality of tasks in accordance with the purpose and performance of tasks.

*Purpose:* analysis and improvement of the level of dynamics of the general physical fitness of servicemen taking into account purposeful performance of tasks.

*Results:* The research has shown that, at all stages of the experiment, the level of general physical fitness of contract servicemen is worse than that of civilian youth cadets ( $t=2,25-2,66$ ;  $p<0,05$ ). It was revealed that in both groups the dynamics of indicators of general physical fitness is positive, but there is no significant difference, which indicates the lack of effectiveness of the current program of physical fitness, regardless of the category of cadets, effectiveness of the current program of physical fitness, or the category of cadets.

**Keywords:** physical training, servicemen, Armed Forces of Ukraine, general physical fitness.

## Introduction

Maintaining the appropriate level of physical and combat readiness of servicemen of the Armed Forces of Ukraine is one important, necessary and sufficient condition for quality and successful implementation of tasks to protect the



state in accordance with the purpose. The professional activity of military servicemen is characterized by constantly increasing physical and mental stress, the impact on the functional state and efficiency of servicemen, their performance of tasks in special conditions associated with risk to life and health [7, 11]. Physical training plays an important role and is not only an important factor which the professional realization of professional tasks by servicemen depends on, but also affects the performance of combat missions [1, 10].

Given the peculiarities of the participation of units and servicemen of the Armed Forces of Ukraine in the conduct of hostilities on the territory of our state, the psychological stability of servicemen and professional competence of defenders is becoming increasingly important [4].

General physical training of servicemen in the process of training in higher military educational institutions contributes to improving military special training, leading a healthy lifestyle, disease prevention and physical rehabilitation, accelerating the adaptation of servicemen to the conditions of military service, the organization of meaningful leisure. The tasks of general physical training follow from its objective function and mainly reflect the general requirements of training and combat activities for the physical condition of all categories of servicemen.

Classes in general physical training are aimed at developing, improving and maintaining physical qualities, formation of motor skills on gymnastic shells, skiing, coordination and spatial orientation in collective action during sports games, coordinated movements in swimming, education of willpower (determination, initiative, ingenuity, endurance and self-control), military training and fitness, improving posture, hardening the body and relieving emotional stress.

Scholars [8, 9] note that progressive changes in the use of units and an increase in the number of servicemen of the Armed Forces of Ukraine have created an urgent problem of a comprehensive reform of training and education of cadets - future commanders of the Armed Forces of Ukraine from the function of sergeant to officer. One of the main components of this task is the creation of a professional sergeant in the Armed Forces of Ukraine, which should be the basis of the future Armed Forces of Ukraine [4, 5].

Thus, the analysis and improvement of the level of dynamics of the general physical fitness of servicemen-defenders of the Armed Forces of Ukraine remains an urgent issue.

## **Materials and Methods**

The study was conducted on the basis of the Military College of Sergeants of the National Academy of Land Forces (Lviv). The study involved 94 cadets of the

Military College of Sergeants of the National Academy of Land Forces named after Hetman Petro Sagaidachny ( $17.6 \pm 0.2$  years old; range: 17–21 years old), of which 48 cadets were chosen from civilian youth (KG1) and 46 cadets were contract servicemen (KG2).

Testing (1 – beginning of the first semester, 2 – end of the first semester) was conducted with the use of well-known exercises, following the conditions of their implementation, which are provided by the Provisional Guidelines for Physical Training in the Armed Forces of Ukraine (TNFP-2014), namely: 100 m run, shuttle running  $10 \times 10$  m, pull-ups on the crossbar, bending and unbending the arms while lying down, shuttle running  $4 \times 100$  m, 1000 m and 3000 m runs.

During the study, pedagogical methods were used (observation, testing) to determine the dynamics of the level of physical fitness of cadets, whereas methods of mathematical statistics were implemented to process experimental data and determine reliability. The results of the study were calculated using Microsoft Office Excel. Significance of differences between sample values was checked using Student's t-test and considered statistically significant at  $p < 0.05$ – $0.001$ .

The results of the study were evaluated by mathematical statistics methods, using the package of applied computer programs "Statistica 5.5", license number AX908A290603AL. After the pedagogical experiments, we carried out calculations of the main univariate statistics:

- arithmetic mean –  $\bar{X}$ , standard deviation of the mean –  $m$ , dispersion –  $\sigma$ ;
- Student's t-criterion - to establish differences between two samples for the average results, assuming normal distribution of individual values in each sample. At the same time, a 5-integer correlation level –  $p$  (correlation not less than 0.95) was accepted as a base; during the analysis of the results in the middle of each sample, the t value was used to compare the results of different samples - for non-compatible samples.

The methods of mathematical statistics allowed the authors to fully study the research question and conduct an experimental test pursuant to the provisions of protection.

## Results

The study of the cadets' performance in the 100 m run showed that the average results at the beginning of the experiment were 14.3 s for KG1 and 14.4 s for KG2, and at the end of the experiment 14.0s and 14.2 s respectively (Table 1). A comparative analysis of the cadets' performance during the first and second control tests showed that the results of the cadets of the first control group deteriorated by 0.3 s at the end of the experiment ( $t = 1.77$ ;  $p > 0.05$ ) and for KG2

they deteriorated by 0.2 s ( $t = 1.75$ ;  $p > 0.05$ ). A comparative analysis of the indicators between KG1 and KG2 allowed us to determine that at the beginning and the end of the study there was no significant difference between the group indicators ( $t = 1.13-1.16$ ;  $p > 0.05$ ).

**Table 1.** Dynamics of the indicators of the military college cadets during the experiment

	KG 1 (n = 48)			KG 2 (n = 46)			P	P
	Beg.	P Beg. End.	End.	Beg.	P Beg. End.	End	KG1 – KG2 Beg.	KG 1 – KG 2 End
<i>The 100 meter run, s</i>								
$\bar{X}$	14.3	t = 1.77	14.0	14.4	t = 1.75	14.2	t = 1.13	t = 1.16
$\sigma$	0.74		0.64	0.80		0.68		
m	0.11		0.09	0.12		0.10		
<i>Shuttle running 10 × 10 meters, s</i>								
$\bar{X}$	29.2	t = 1.41	29.1	29.0	t = 2.08	29.2	t = 2.25	t = 1.24
$\sigma$	0.38		0.37	0.39		0.37		
m	0.05		0.05	0.06		0.06		

$\bar{X}$  – arithmetic mean,  $\sigma$  – dispersion, m – standard deviation of the mean

Source: own research by O. Nebozhuk.

The analysis of the indicators in the cadets' shuttle run of 10 × 10 m showed that the average results at the beginning of the experiment were 29.2 s for KG1 and 29.0 s for KG2, whereas at the end of the experiment it was 29.1 s for KG1 and 29.2 s for KG2 (Table 1). A comparative analysis of the cadets' performance during the first and second control tests showed that the cadets of the first control group did not significantly improve the results at the end of the experiment by 0.1 s ( $t = 1.41$ ;  $p > 0.05$ ) and KG2 group improved them by 0.2 s ( $t = 2.08$   $p < 0.05$ ). A comparative analysis of the indicators between KG1 and KG2 allowed us to determine that at the beginning of the study the results of the exercise for KG1 were significantly better by 0.2 s than those for KG2 ( $t = 2.25$ ;  $p < 0.05$ ). At the end of the study, the results of the exercise for KG2 were worse by 0.1 s than those for KG1, but unreliable ( $t = 1.24$ ;  $p > 0.05$ ).

Studies of the cadets' pull-ups on the crossbar showed that positive changes occurred in both groups, but no significant improvement was found (Table 2). Thus, the results of the exercise for KG1 during the experiment improved by 0.8 times ( $t = 1.43$ ;  $p > 0.05$ ). The analysis of the performance indicators for KG2 cadets showed an improvement of the result by 0.9 times ( $t = 1.46$ ;  $p > 0.05$ ).

The comparative analysis of KG1 and KG2 showed that KG1 cadets' (civilian youth) results at the beginning of the experiment were significantly better compared to KG2 by 1.2 times ( $t = 2.50$ ;  $p < 0.05$ ).

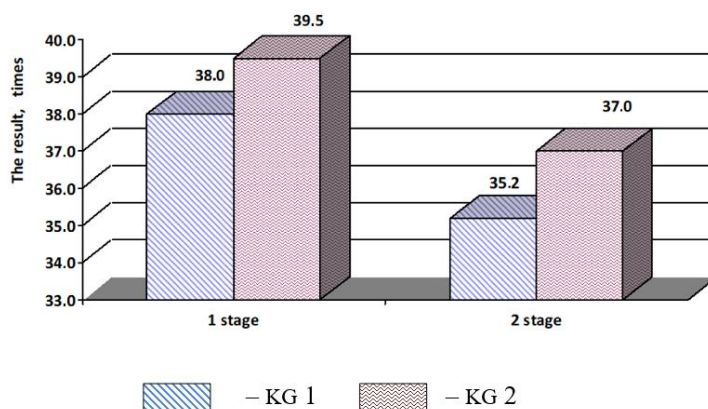
**Table 2.** Dynamics of the cadets' performance in pull-ups on the crossbar during the experiment, times

	KG 1 (n = 48)			KG 2 (n = 46)			P KG1 – KG2 Beg.	P KG 1 – KG 2 End
	Beg.	P Beg. End.	End.	Beg.	P Beg. End.	End		
$\bar{X}$	13.8	t = 1.43	14.6	12.6	t = 1.46	13.5	t = 2.50	t = 1.56
$\sigma$	2.41		3.00	2.10		3.55		
m	0.35		0.43	0.31		0.52		

Source: the data obtained from the dissertation research by O. Nebozhuk.

The analysis of cadets' arms flexion and extension in the supine position during the experiment showed that the arithmetic mean at the beginning of the study were 38.0 times for KG1 and 35.2 times for KG2, and at the end of the experiment 39.5 times for KG1 and 37.0 times for KG2 (Fig. 1). The comparative analysis of cadets' performance during the first and second control tests showed that the cadets of the first control group improved 1.5 times at the end of the experiment compared to the beginning ( $t = 1.38$ ;  $p > 0.05$ ). It was also found out that for KG2 the results of the exercise improved 1.8 times ( $t = 1.69$ ;  $p > 0.05$ ), but no significant improvement was found in both groups.

The comparative analysis of the indicators between KG1 and KG2 allowed us to determine that at the beginning of the study the results for KG1 were significantly better than for KG2, i.e. by 2.8 times ( $t = 2.66$ ;  $p < 0.05$ ). The analysis of the results for KG1 and KG2 at the end of the experiment showed that in the first control group the indicators were also significantly higher than in KG2, i.e. by 2.5 times ( $t = 2.27$ ;  $p < 0.05$ ).

**Fig. 1.** Dynamics of the cadets' arm flexion and extension in the supine position during the experiment, times

Source: own research.

The analysis of the cadets participating in the shuttle run 4 × 100 m during the experiment showed that the average results at the beginning of the study were 92.6 s for KG1 and 94.3 s for KG2, and at the end of the experiment they equalled 92.0 s for KG1 and 93.2 s for KG2 (Table 3).

**Table 3.** Dynamics of the indicators for the cadets taking part in the shuttle running 4 × 100 m during the experiment, s

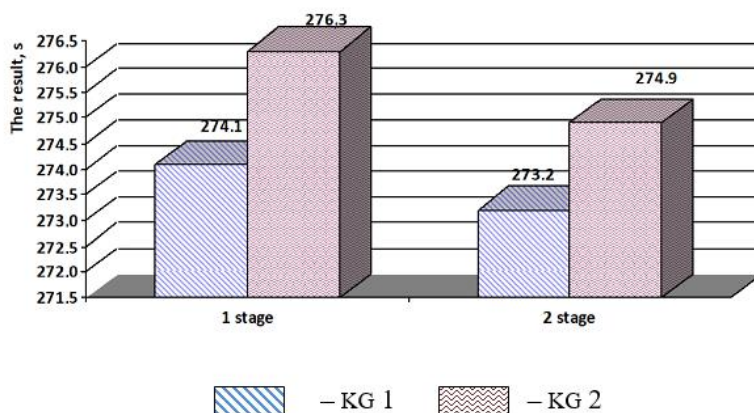
	KG 1 (n = 48)			KG 2 (n = 46)			P KG1 – KG2 Beg.	P KG 1 – KG2 End
	Beg.	P Beg. End.	End.	Beg.	P Beg. End.	End		
$\bar{X}$	92.6	t = 0.72	92.0	94.3	t = 1.29	93.2	t = 1.88	t = 1.41
$\sigma$	4.26		3.90	4.51		4.02		
m	0.62		0.56	0.67		0.59		

Source: own research.

The analysis of the performance of shuttle running 4 × 100 meters by the cadets during the first and second control testing showed that the results of the cadets from the first control group at the end of the experiment significantly improved by 0.6 s ( $t = 0.72$ ;  $p > 0.05$ ), compared to the beginning. In addition, it was found out that in the second control group the results of the exercise improved by 1.1 s ( $t = 1.29$ ;  $p > 0.05$ ), but no significant difference in the results during the experiment was found. It was also determined that the results of the second control group at the beginning and end of the experiment were insignificantly worse than KG1 ( $t = 1.41$ – $1.88$ ;  $p > 0.05$ ).

The analysis of the cadets' performance in the 1000-meter run during the experiment showed the following arithmetic mean at the beginning of the study: KG1 – 274.1 s, KG2 – 276.3 s, and at the end of the experiment KG1 – 273.2 s, KG2 – 274.9 s (Fig. 2). A comparative analysis of the cadets' performance during the first and second control tests showed that the results of the cadets from the first control group at the end of the experiment improved by 0.7 s compared to the beginning ( $t = 0.78$ ;  $p > 0.05$ ). It was also revealed that for KG2 the results of the exercise improved by 1.4 s ( $t = 1.69$ ;  $p > 0.05$ ), but no significant improvement in the results was found in any of the groups.

The comparative analysis of the indicators between KG1 and KG2 allowed us to determine that at the beginning of the study the results for KG1 were significantly better than for KG2 at 2.2 s ( $t = 2.28$ ;  $p < 0.05$ ). The analysis of the results for KG1 and KG2 at the end of the experiment showed that in the first control group the indicators were also better than for KG2 by 1.7 s ( $t = 1.79$ ;  $p > 0.05$ ), but without a significant difference.



**Fig. 2.** Dynamics of the cadets in the 1000-meter run during the experiment, s

Source: own research.

The study of the cadets' results of their 3000-meter run during the experiment showed that the arithmetic mean at the beginning of the study were 852.5 s for KG1 and 875.5 s for KG2, and at the end of the experiment 837.6 s for KG1 and 864.3 s for KG2 (Table 4). The analysis of the cadets' performance in the 3000-meter run during the first and second control tests showed that the cadets of the first control group had slightly improved results at the end of the experiment by 14.9 s ( $t = 1.47$ ;  $p > 0.05$ ). In addition, it was found out that in the second control group the results of the exercise improved by 11.2 s ( $t = 1.39$ ;  $p > 0.05$ ), but no significant difference in results during the experiment was found.

**Table 4.** Dynamics of the cadets in the 3000-meter run during the experiment, s

	KG 1 (n = 48)			KG 2 (n = 46)			P KG1 – KG2 Beg.	P KG 1 – KG 2 End
	Beg.	P Beg. End.	End.	Beg.	P Beg. End.	End		
$\bar{X}$	852.5	t = 1.47	837.6	875.5	t = 1.39	864.3	t = 2.56	t = 2.87
$\sigma$	48.26		50.80	38.73		38.90		
m	6.97		7.33	5.71		5.74		

Source: used the data obtained in the dissertation research O. Nebozhuk.

A comparative analysis of exercise performance between KG1 and KG2 allowed us to determine that at the beginning of the study the results in the first control group were significantly better than for KG2 by 23.0 s ( $t = 2.56$ ;  $p < 0.05$ ). The analysis of the results of KG1 and KG2 at the end of the experiment showed that in the first control group the indicators were also significantly higher than in KG2 by 26.7 s ( $t = 2.87$ ;  $p < 0.01$ ).

## Discussion

General physical training of servicemen in the process of training in higher military educational institutions contributes to improving military special training, leading a healthy lifestyle, disease prevention and physical rehabilitation, accelerating the adaptation of servicemen to the conditions of military service, the organization of meaningful leisure. The tasks of general physical training follow from its objective function and mainly reflect the general requirements of training and combat activities for the physical condition of all categories of servicemen.

The previous research has shown that the level of training of servicemen at the initial stage of training is insufficient to perform the assigned tasks. Our main task was to analyze the results of the experiment, whose purpose was to study the level of general physical fitness of servicemen of the military college of sergeants, to determine the dynamics of the general physical fitness of cadets, taking into account the categories of servicemen.

Our research showed that at all stages of the experiment the level of general physical fitness of the cadets, i.e. military servicemen under contract is worse than the cadets chosen from among civilian youth ( $t = 2,25-2,66$ ;  $p < 0,05$ ). In addition, it was found out that in both groups the dynamics of the indicators of general physical fitness is positive, but there is no significant difference, which indicates the lack of effectiveness of the current program of physical training, regardless of the category of cadets.

In the future, the results of our study shall be useful to determine the effectiveness and implementation of the author's program to improve the overall physical fitness of cadets, which in turn will provide an opportunity to significantly improve their overall physical qualities.

## Conclusion

The results of the experiment to determine the dynamics of the level of general physical fitness of cadets of the military college of sergeants, taking into account the categories of servicemen, showed that at the beginning of the experiment the results of the 10 × 10 meter run in the first control group (civilian youth) was significantly better than for KG2 ( $t = 2.25-2.66$ ;  $p < 0.05$ ). In addition, it was determined that at the end of the experiment the results of exercises in bending and unbending the arms in the supine position and the 3000-meter run in the second control group were significantly worse than KG1 ( $t = 2.27-2.87$ ;  $p < 0.05-0.01$ ).

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### STATEMENT OF ETHICS

All participants in our study gave their informed consent to participate in the experiment. Research was conducted and performed in accordance with the ethical standards of the Declaration of Helsinki. According to protocol of the sitting of a committee of ethics and bioethics № 5 dated 20.06.2022 of Lesya Ukrainka Volyn National University as part of the Head of committee: Doctor of Science in Physical Education and Sports, Professor O. Andriychuk; Members of committee: PhD in Biology, Associate Professor O. Usova; PhD in Medical Sciences, Associate Professor O. Yakobson (Luts'k, Ukraine) the conclusion as for release of the article «General physical fitness of servicemen – as the main element of increasing military-special training» was formed: to recommend suggested investigation to the printing in Journal “Sport and Tourism. Central European Journal”.

### DECLARATION OF CONFLICTING INTERESTS

The authors declared no potential conflicts of interests with respect to the research, authorship, and/or publication of the article *General physical fitness of servicemen as the main element of increasing military-special training*.

### FUNDING

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## Football coach replacement – short-term effect on performance

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### Zmiana trenera piłki nożnej – krótkoterminowy wpływ na wyniki sportowe

#### Streszczenie

Wynik sportowy to jeden z najważniejszych aspektów funkcjonowania klubów piłkarskich, a niezadowolający poziom wyników często owocuje zwolnieniem trenera. Sama motywacja osób zarządzających klubami piłkarskimi do zmiany na pozycji pierwszego szkoleniowca sugeruje, że wpływ takiej zmiany na wyniki klubów uzyskiwane w perspektywie krótkoterminowej jest korzystny. Celem artykułu jest ustalenie, w jaki sposób zmiana na pozycji pierwszego trenera w klubie piłkarskim wpływa na osiągnięte rezultaty sportowe. Dokonano analizy statystycznej dla określenia różnicy w osiągniętych przez drużyny wynikach w analogicznych okresach dziesięciu meczów poprzedzających zmianę szkoleniowca oraz dziesięciu meczów po zatrudnieniu nowego trenera w ligach Premier League oraz La Liga, w trzech pełnych sezonach od 2018 do 2021 r. Przeprowadzona analiza pozwoliła wykazać, że w większości przypadków taka zmiana wywiera pozytywny

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wpływ na wyniki zespołu – drużyny krótkoterminowo uzyskują więcej punktów ligowych. Efekt ten jednak w szybkim tempie zanika. Ostatecznie skumulowana liczba punktów uzyskanych przez drużyny pokazuje, że „terapia szokowa”, jaką jest zmiana trenera, na ogół działa i przynosi oczekiwaną poprawę wyników. W związku z powyższym, kiedy wyniki nie są satysfakcjonujące, rotacja na tej pozycji powinna być rozważana jako potencjalny sposób na poprawę rezultatów.

**Słowa kluczowe:** piłka nożna, wynik sportowy, zmiana trenera, Premier League, La Liga.

## Abstract

Sporting performance is undoubtedly one of the key aspects of the way in which professional clubs operate. Insufficient results often result in coach turnover. The initial motivation to replace the coach suggests that improvement should come after the change. This paper aims at determining how the rotation on the coach position influences football clubs' short-term sporting performance. The material for analysis consists of ten games before and ten games after each coach replacement in Premier League and La Liga in the past three seasons from 2018 to 2021. A statistical analysis is conducted to determine and highlight the difference in performance in respective time frames before and after the turnover. The analysis helped to understand that coach replacement does in fact come with a performance booster in most cases – the teams generally benefit short-term. Drawing conclusions from the analysis, it needs to be noted that this positive effect quickly wears off. Eventually, however, accumulated data is an indicator that the shock-therapy, which coach turnover is, works. When the performance regresses, rotation on coaches' chair should be considered as a possible solution.

**Keywords:** football, results, coach turnover, Premier League, La Liga.

## Introduction

Undoubtedly, the core of sport clubs' existence is their performance. Ultimately, the results are what attracts fans, sponsors, as much as they create a general positive perception of the club. The determinants of the aforesaid performance are a subject of multiple cross-discipline research describing different factors influencing it. While they are often revolving around economical aspects of football clubs' functioning [1], [17], they can also be based on more purely sport-related determinants such as players' quality and match stake [24] or in-game achievements (such as possession, passes or shots taken) and their contribution to the final match result [27].

Apart from the leading actors of every football match – the players – the responsibility for results is concentrated on the 1<sup>st</sup> team staff member, especially the coach. They are the club workers closest to the playing field – except for the players themselves – so club managers usually see them as the reason of promising or disappointing performance. Therefore, when the results worsen and club owners are considering their options to improve them in a short-term period, it is often easier and more convenient to let one coach go instead of replacing a bigger part of the team. This is the reason why the dilemma between

two ways of acting usually ends similarly – with a coach turnover. Post-season changes appear to be more thoughtful. Dissatisfaction with the final result provided by one coach drives the change with hopes for long-term improvement. Different motives cause mid-season changes. In these cases, very often replacement comes after a sudden significant form of regress, resulting in a poorer performance [6], [17], [19].

Is this approach correct? Can a short-term booster of performance and results be really expected? The case is not only interesting for football-oriented researchers but is also a subject of many studies on other sports disciplines such as basketball [21] or baseball [10], [17].

This paper aims at determining how the rotation on the coach position influences football clubs' short-term sporting performance. A statistical analysis will be conducted to see the impact coach turnovers had on Premier League and La Liga football teams in three full seasons – from 2018/19 up to 2020/21.

The frequency of the turnovers was a springboard to many studies on that matter in the first decade of the 21<sup>st</sup> century. Not only are they based on data from earlier seasons in this rapidly changing world of football, but also the research articles on that subject were inconclusive and often contradictory. For example, a study proved the results to decline over the first two months in Belgium [3], which is not considered the country with top football performance, whereas a similar result is also pointed out in a study regarding English Premier League, one of the two leagues analyzed in this paper. A Spanish study on La Liga (also analyzed here) suggested an immediate positive effect, though flattening over time [19].

Other researchers did not notice any improvement in performance [5], [22], [23], however their research was based on a longer time frame, while this paper aims to find the short-term shock reaction's immediate effect on performance. It is suited for cases when the need of short-term improvement is crucial and is the main driver for the change in the coaching position.

Coaching performance in team sports focuses on four core factors having a direct effect on the team as a unity [18]:

- Selecting and engaging adequate players who bring along a specific ability of game performance as well as other desirable traits for a successful team,
- Forming and leading individual players as well as a team,
- Planning and regulation of training,
- Game strategy and match governance.

A coaching competence scale may consist of five different dimensions of coach competencies: 1) Creating the relationship, 2) Communication attending skills, 3) Communication influencing skills, 4) Making the responsibility clear, and 5) Facilitating for learning and results [20]. Coach competencies may be a stim-

ulus for organizational learning; some of their dimensions are related to learning culture [20].

## Material and methods

The general motivation for a turnover implies the hypothesis that coach turnover influences the results of a football team positively in a short-term perspective. Considering how often football clubs seek improvement by rotation on the first coach chair, it is justified to inquire how the sporting performance differs in respective short time frames before and after the turnover. Are the results of new coach's first games better than his predecessor's?

### Data

Verification of the hypothesis is based on data regarding coach changes retrieved from transfermarkt.de [26] and the prior to and post change results obtained from flashscore results database [11]. As these web portals are among the most popular, commonly used, trusted and respected databanks in football industry, they were selected as the most reliable sources for data to the research. Therefore, the risk of mistakes or wrongly documented data was minimized. The data covers mid-season coach replacements in two currently highest ranked (uefa.com [9]) football leagues in Europe – Premier League and La Liga. The validity of the data was ensured by selecting the most recent results, i.e. the last three full seasons – from 2018/2019 to 2020/2021. In-between seasons coach changes were not observed, as the layover might be reducing the researched influence. However, if a new coach was appointed with fewer than ten games to the end of a season, his ten games observation span was extended to his next-season games. Respectively, if a coach was changed sooner than ten games into new season, his previous performances from the last season were also included in the ten games span. An exception to this rule is when a team was relegated – the results were standardized to a top tier playing level in a given country (Premier League in England and La Liga in Spain) and results from a tier below could not be included. Also, caretaker coaches were observed, however only if they managed the team for ten games. In case when a caretaker coach was turned over sooner, the last ten games of the previous coach were analyzed in relation to the first ten games of a new permanent coach with the assumption that this was a change initially desired by club authorities. In total, there were 43 coach change observations within 847 games, as listed in Table 1.



**Table 1.** Number of mid-season coach changes and games observed

League	Mid-season coach replacements	Games
Premier League	17	332
La Liga	26	515

Source: FlashScore database (2021).

## Procedures

Collected data was structured and sequenced in match day periods from -10 up to 10, from the first analyzed game of a replaced coach up until the last analyzed game of his successor. A comparison test was conducted to determine and highlight the difference in performance in respective time frames before and after the turnover. A determining factor was the average point per game ratio for three set periods: 1, 3 and 10 corresponding match days before and after the change. This part of the research corresponded to the methods used by Lago-Peñas (2011).

$$(1) \text{ Avg(PG1)} - \text{Avg(PG-1)}$$

$$(2) \text{ Avg(PG1,PG2,PG3)} - \text{Avg(PG-1,PG-2,PG-3)}$$

$$(3) \text{ Avg(PG1,PG2,PG3,...,PG10)} - \text{Avg(PG-1,PG-2,PG-3,...,PG-10)}$$

Consequently, a scatter plot was generated in statistical software to graphically depict progress that teams made after a given change. It was based on absolute point difference for each analyzed coach replacement that was calculated.

Lastly, a graphic depiction of a total number of points accumulated for teams was created. The first figure visualizes total progress achieved by teams after the coach change. The second figure visualizes separate total point values for separate match days in order to highlight the exact corresponding match day's contribution to the very total.

## Results

Since the first post-change match day teams have proven to improve their results to a similar extent in both analyzed leagues. Spanish teams tended to have worse results before making the decision to replace the coach during the season and for them the immediate results improvement is therefore slightly more significant. Per match day a team can collect 0, 1 or 3 points depending on the result (lose, draw or win), and these points will be the dependent variable. The biggest improvement for both leagues came during the second analyzed period, that is after the 3<sup>rd</sup> match day. Over this period the average of collected points per game was more than double compared to corresponding results in

the last three games before the shift on the coach position. Again, Spanish teams were the ones with the most noticeable positive change, improving by over 112%. The progress significantly flattens over the last analyzed period – full ten match days (table 2).

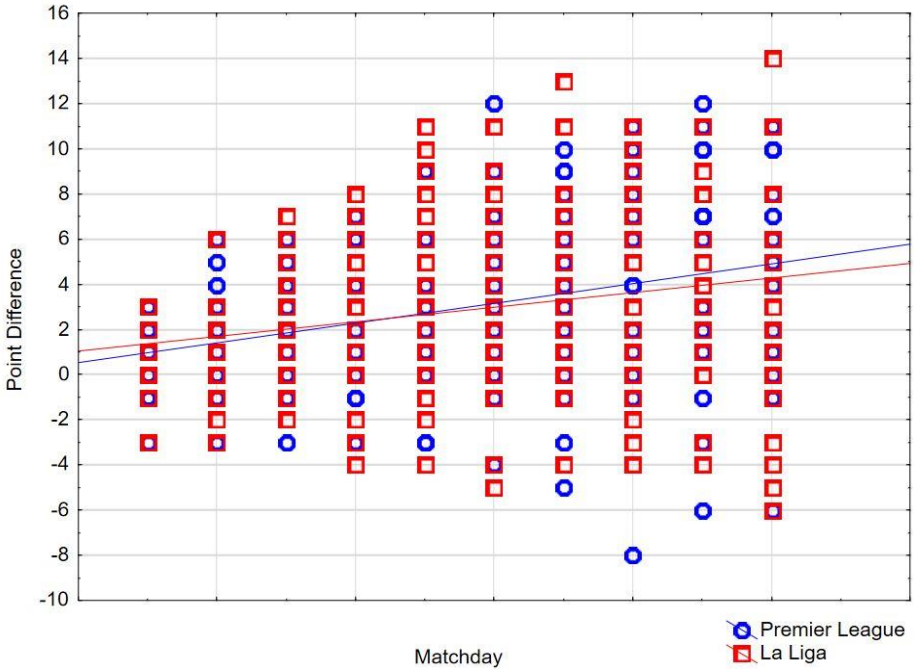
**Table 2.** Average points per game

League	1 game prior to coach change	1 game after coach change	Difference	3 games prior to coach change	3 games after coach change	Difference	10 games prior to coach change	10 games after coach change	Difference
Premier League	0.65	1.18	+0.53	0.60	1.19	+0.59	0.83	1.27	+0.44
La Liga	0.54	1.19	+0.65	0.62	1.32	+0.70	0.95	1.26	+0.31
Total	0.58	1.19	+0.61	0.61	1.27	+0.66	0.92	1.27	+0.35

Source: own studies utilizing data obtained from FlashScore database (2021).

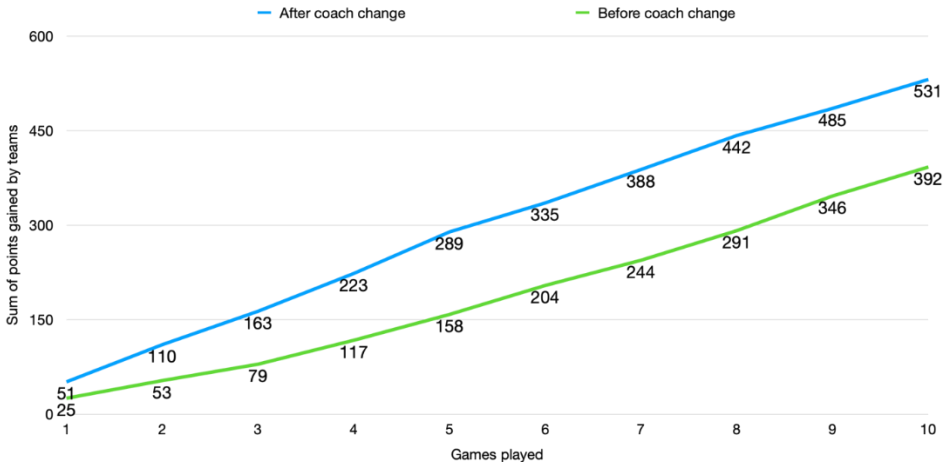
A scatter plot is a tool to visualize these data in a more detailed way – with higher regard of teams' individual performances. It broadens the idea of collective progress being just a combination of all the individual efforts. Each red square represents a Spanish La Liga team, whereas blue circles are Premier League representatives (Figure 1). Most of the teams benefited from the change and the trend line also suggests so. Initially the progress for La Liga teams is more noticeable, however, in the end English teams were the ones to have progressed the most. The results do not vary significantly, which seems to be an indication that a steady progress is to be usually expected from top level teams replacing their coaches. The scatterplot reveals each individual team contributing to this generally positive outcome. The spread is wide, and we see that ultimately two teams (one from each league) gained as many as six points less than they did in a respective period of ten games before replacing the coach. One of the teams from English Premier League reached the lowermost spot at eight points behind on match day 8, compared to the number of points gained in last eight games of the previous coach in charge.

The total number of points is also clearly showing how much of a positive impact on team performance the coach shifts have on average, without considering the insights we can see in the scatterplot (Figure 2). A steady increase is visible since match day one up until match day 10, with a slight decrease on match day 9, however not influencing the general progress.



**Figure 1.** Point difference for every team after each analyzed match day

Source: own studies utilizing data obtained from FlashScore database (2021).

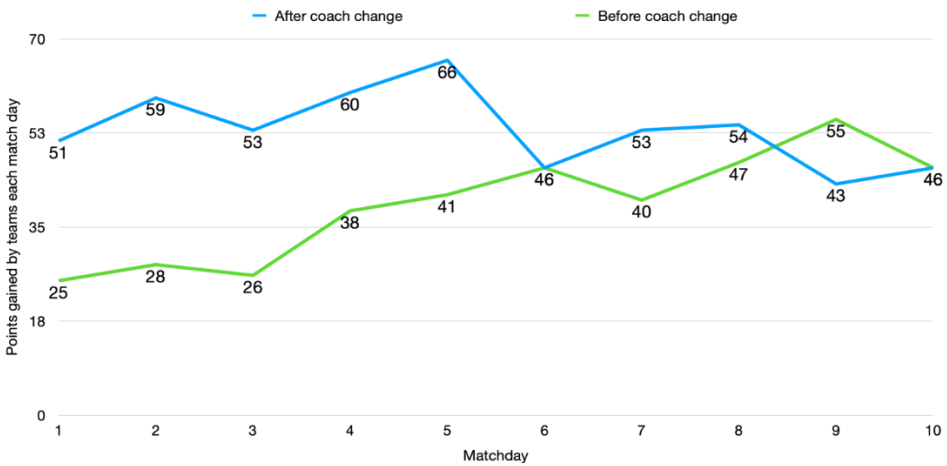


**Figure 2.** Accumulated point differences for all teams combined

Source: own studies utilizing data obtained from FlashScore database (2021).

Another figure was created to supplement the generally positive accumulated number of points gathered by all the teams (Figure 3). It graphically sup-

ports the general outcome of the previous calculations – positive impact on team performance coming with the new coach is immediate and progresses even more up to match day 3. Up until match day 6, the teams still collected significantly more points than they had in a respective period before coach turnover. The figure also indicates that the novelty effect brought on by the new coach, however significant, quickly wears off. From match day 6 on, the progress seems to have remarkably declined, with the abovementioned match day 9 being the only one from the analyzed period on which the teams did not manage to obtain at least as many points as on respective match day – 9.



**Figure 3.** Point differences in separate match days

Source: own studies utilizing data obtained from FlashScore database (2021).

## Discussion

Just the number of mid-season coach turnovers in top European leagues indicates how important their effects may be to team performance. In hope for this improvement clubs decide to proceed with a new team coach, especially in circumstances of high pressure to stay in the top division and maintain the revenue source associated with it.

When the turnover comes, it must be noted that permanent improvement is unlikely to happen. Just like in case where a longer-term effect was the basis for research [5], [22], [23], our research discovered that results stabilize and go “back to normal” after a short novelty period. The effect is also highlighted because the change comes after a sharp decrease in obtained points in league tables. Another research argued that this factor is the main driver for coach turnover [10], [17], [19] and this point of view proved to be the case in this paper.

The performance preceding the turnover was very poor and declining. However, this does not fully explain the motivation standing behind club's managers who decide to change the head coach. It turns out that the decline in results could be forgiven more eagerly when no relegation threat occurs. American Major League Soccer is a perfect example of this trend: there are no relegations from the league, and this has significantly lowered the total number of coach dismissals over the last years [25]. What is important to notice is the fact that contrary to MLS, Premier League and La Liga do relegate teams each season. Moreover, they are two leagues of the highest TV revenue split each season among all the teams [12]. Therefore, the threat not only occurs, but it is also scarier than anywhere else, which significantly contributes to the importance of the research.

Current research suggests that performance change does not stem from the physical aspects of coaches' influence on the players and has more to do with a new coach's tactical abilities [16]. That is an important observation for determining whether it is time for a turnover and even though it was not a basis for our research it needs to be addressed.

The post-turnover positive effect is present and lasts for about six match days. Even though it does not seem to be permanent, it cannot be ignored that teams do perform better. This stands contrary to some of the other research conducted in this field. A Belgian study proved that performance declined in the first two months after the turnover [3]. This difference between observed results possibly stems from a different general performance level in these respective leagues – the Belgian top division occupies the 13<sup>th</sup> place in the UEFA ranking led by Premier League and La Liga. This general performance inequality influences the threat of being relegated and possible consequences that are basically incomparable between those leagues, therefore the Belgian one could and should be considered separately. However, it needs to be noted that positive short-term impact is, in fact, conditional. In the Brazilian top division, it takes about 7 games to see a slight increase in performance [13], whereas in Premier League and La Liga the effect seems to be wearing off by that time. The Brazilian top division holds the 12<sup>th</sup> place in FIFA ranking, also led by leagues researched in this paper, which again might be an explanatory factor for this different outcome. As in evidence from Belgian football, positive effect is lower in the league of a lower status. It is worth mentioning that another study on Brazilian football, which undertakes different methodology, i.e. the probability of winning, losing or drawing is introduced, proves that the probability of winning at least two games on the first 6 match days following the coach turnover increases by 30% [4].

A recent study that cross-analyzed top divisions in Europe [14] over a longer time frame concludes that, contrary to conventional wisdom, getting acquainted with the organizational standards does not help the coach enhance the results, as from match day 10 improvement in results is nowhere to be found.

Our study also confirms those findings, shortening the novelty time even further – to about match day 6. This, however, does not disrupt the general outcome of both studies and even highlights the short-term improvement. Research on top four European leagues, which includes a dataset closest to the one from this paper, along with their 2<sup>nd</sup> tiers corroborates these results, proving further that after coach dismissal teams experience a small, but statistically important increase in performance for about 6 match days [9]. Then, their performance declines somewhat over games 7-15. A general impression is that whenever top divisions are subject to research, the novelty effect of a coach change is always the same.

## Conclusive remarks

Firing the coach mid-season in leagues of the highest European level remains risky and can have various results. The distribution of point ratios gained by teams on ten consecutive match days after rotating on the coach position is wide and different outcomes must be expected.

However, contrary to some of the previous findings from English Premier League, a significant positive trend is present in both leagues as well. The wearing-off period comes after about 6 match days of reliable progress. Then the results flatten and become almost indistinctive from the corresponding results preceding the turnover.

The final outcome of the study could serve as a practical piece of advice for management staff of football clubs struggling with performance, as the wear-off effect is clearly present. The immediate shock therapy seems to really make an impact on a given team's performance. When it is on the verge of being relegated, this quick improvement is necessary and it may be a smart strategic move to replace the coach. However, with thorough long-term planning, it seems to be just a positive spark to be noted, and nothing more. A further study on a longer-time perspective would be an important complement and an indicator whether the positive effect permanently flattens or maybe fluctuates in certain patterns over time. Provided that enough data is available on high-achieving teams, some differentiation between them and teams struggling to avoid relegation could also be introduced and researched to gain an understanding on whether the influence depends on a team's status within the league, making the results more meaningful for certain scenarios a given team faces when they consider coach replacement. Furthermore, it also needs to be mentioned that coach turnovers usually exceed the expenditure of the club significantly. Weighting beneficial sporting results against the aforesaid increased costs could also be a basis for useful, practical further research. Lastly, an in-depth profes-

sional football analysis could be conducted on scouted performance to determine what the factors are that, in fact, influence the change in play and in performance after coach turnovers. Understanding what that new thing is that coaches bring to the game, which positively affects the results could be beneficial for club managers so that they are able to reach the best decision for their teams at any given time.

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## **CZĘŚĆ III**

**UWARUNKOWANIA ZDROWIA,  
POSTAWY PROZDROWOTNE, JAKOŚĆ ŻYCIA**





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## The use of hippotherapy in shaping the body posture and balance in children with Down syndrome

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### Wykorzystanie hipoterapii w kształtowaniu postawy ciała i równowagi u dzieci z zespołem Downa

#### Streszczenie

Zespół Downa (DS) należy do najczęstszych zaburzeń rozwojowych o podłożu genetycznym, których przyczyną jest trisomia 21 pary chromosomów. Częstość występowania zespołu Downa w populacji generalnej szacuje się na 1 na 732 niemowlęta. Odsetek ten wzrasta znacznie w przypadku rosnącego wieku rodzących kobiet. Zespół Downa manifestuje się szeregiem objawów za-

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równy podmiotowy, jak i przedmiotowy. Objawy przedmiotowe dotyczą głównie nieprawidłowości w budowie ośrodkowego układu nerwowego, narządów wewnętrznych, wad narządu wzroku i układu szkieletowego. Oba aspekty rozwoju, tj. fizyczny i umysłowy są opóźnione. Jedną z metod wspomagających leczenie chorych z zespołem DS jest hipoterapia. Przybiera ona różne formy, m.in.: terapii w postaci kontaktu z koniem, psychopedagogicznej jazdy konnej i terapeutycznej jazdy konnej. Celem artykułu było ukazanie wpływu hipoterapii na kształtowanie się postawy ciała oraz zdolności koordynacyjnych ze szczególnym uwzględnieniem równowagi ciała.

**Słowa kluczowe:** zespół Downa, hipoterapia, postawa ciała, niepełnosprawność intelektualna, równowaga.

## Abstract

Down syndrome (DS) is one of the most common genetic developmental disorders that is caused by a trisomy of the 21<sup>st</sup> chromosome pair. The incidence of Down syndrome in the general population is estimated at 1/732 infants. This percentage increases significantly with the increasing age of women in labour. Down syndrome manifests itself in a variety of signs and symptoms. The signs mainly refer to abnormalities in the structure of the central nervous system, internal organs, eye and skeletal system defects. Both aspects of development, i.e., physical and mental, are delayed. One of the methods that supports the treatment of patients with DS is hippotherapy. It takes various forms, including: therapy in the form of contact with a horse, psycho-pedagogical horse riding and therapeutic horse riding. The purpose of the article was to present the influence of hippotherapy on the shaping of body posture and coordination skills with particular emphasis on body balance.

**Keywords:** Down syndrome, hippotherapy, body posture, intellectual disability, balance.

## Introduction

Down syndrome is a congenital disease; it is the result autosomal chromosomal aberration and manifests itself in the presence of characteristic clinical features. The disease was first described by the English physician Langdon Down (1828–1896) in 1868 [12]. The cause of this disease has been unknown for a long time. It was only in 1959 that the French physician and geneticist Jerome Lejeune (1926–1994) discovered its cause, which was the trisomy of the 21<sup>st</sup> pair of chromosomes [25]. So far, no specific factors have been established that would indicate the cause of the disease. In the prevalent opinion, this defect is assumed not inherited from the parents, but is considered genetic, although these are rare cases – 2% of all diagnosed [2].

## Epidemiology

According to Vallabhajosyula et al. [43], Down syndrome is one of the most common autosomal developmental disorders. The incidence of the syndrome is about 1 in 700 live births. Sherman et al. [40] estimate that DS occurs in about

1/732 infants. In this aspect, maternal age is emphasized as a significant risk factor; in young mothers, it occurs once in 1,200 live births, and among mothers over 40 years of age, the frequency increases to 1 in 40 live births. What follows is that more than 20% of children with Down syndrome are born to mothers over 35 years of age, although older mothers give birth to only 7–8% of all children. The extra chromosome comes from the father less often than from the mother; the difference is about 30% [2].

### **Signs and symptoms**

Infants are usually quiet and calm; they rarely cry and show symptoms of decreased muscle tone. Both physical and mental development are delayed. The average intelligence quotient (IQ) is only about 50. Apart from the whole series of dysmorphic changes concerning individual parts of the body, the frequent occurrence of heart defects is emphasized, and it often determines the shorter life span of these people. People without heart defects reach the age of 40–50 years [2].

The developmental changes observed in people with Down syndrome usually include deficits in controlling posture and maintaining balance, as well as problems with maintaining the right body weight. According to Palisano et al. [30], postural and balance control deficits are associated with decreased muscle tone and an abnormal pattern of muscle response to joint movement. Children with this syndrome are more often than their peers in normal development with hearing loss [37] and atypical flow of agitation from the receptor to the analyzer through the visual route [31]. Moreover, such people usually suffer from disorders of the structure and functions of the organ of sight (60–69%), such as refraction defects, strabismus, and nystagmus [34]. Abnormalities in the functioning of the senses that cause difficulties in controlling balance constitute the picture of sensory integration disorders [36, 37]. According to Łasak and Żuchowicz [22], in the revalidation of people with Down syndrome, great importance is placed on their participation in physical education classes, which facilitate their psychosocial functioning. Physical activity and good physical fitness are important factors influencing the health, lifestyle, and well-being of these people.

### **Therapies with animals**

Therapy with the participation of animals, i.e. zootherapy (animal therapy) has been used in modern medicine since the 1960s. According to Boguszewski [4], in addition to dog therapy, hippotherapy is the most popular of zootherapy method. In Poland, the first attempt to introduce this form of therapy was made in 1946, in Łódź, while the first centre was established in 1962, in Konstancin. The founder of this centre was Prof. Marian Weiss [39]. According to the Polish Hippotherapy Society, hippotherapy is a targeted therapeutic action aimed at

improving human functioning in the physical, emotional, cognitive, and social spheres, during which a specially selected and prepared horse is an integral part of the therapeutic process. In horse therapy, it is important for the patient's safety, as well as for its effectiveness, to choose the right horse. Calm horses with a mild and balanced temperament are recommended [44].

The purpose of the work was to present a review of the research results on the effects of the use of hippotherapy in the treatment of children with Down syndrome, with particular emphasis on the impact on their body posture and balance.

## Methods

This work is a narrative review and has been written based on the method of document analysis using qualitative and quantitative techniques. The research tool, however, was Polish and foreign literature from the database, namely AWF Kraków Library, Web of Science, PubMed, and Google Scholar.

The article presents the results of studies related to the efficiency of hippotherapy in the treatment of children with Down Syndrome, from the period of time between 2000-2020, especially from international publications. The articles have been reviewed in the context of the type of therapeutic treatment as well as the documented impact of the therapy.

From the above mentioned database, 25 articles related to hippotherapy have been selected, of which number, 17 articles have been further examined. These articles have met the high methodological standards and at the same time met the following inclusion criteria: (1) showed the effects of the use of hippotherapy in children with Down Syndrome, (2) presented various forms of hippotherapy, (3) included other aspects, e.g., social ones, of hippotherapy.

The analysis excluded unrelated work, systematic reviews, meta-analysis, and case studies. The following key words have been used to search for information: Down syndrome, hippotherapy, body posture, intellectual disability, coordination problems, and balance.

## Results and discussion

### The balance of the human body

Balance, similar to other coordination abilities, together with fitness abilities, constitutes human motor activity, which, according to Bulicz et al. [7], is one of the most important aspects of physical health. Błaszczuk [3] defines it as



“a specific state of the postural system”. This state is achieved by balancing the forces and their moments acting on the body.

The issue of the balance of the human body, understood as the ability to keep the centre of gravity of the body above the support plane, should be considered in a broader context, i.e., maintaining the correct body posture and spatial orientation. People maintain balance thanks to the work of skeletal muscles under the control of the nervous system, and in particular, it is determined by: proprioception receptors, the organ of balance, and eyesight.

The organ of balance of the human body is the labyrinth located in the inner ear. The labyrinth consists of three elements, i.e. the cochlea (which is the organ of hearing), the semicircular canals, and the vestibule, which we consider to be the proper organ of balance. This organ works closely with the cerebellum, its main nucleus called the cerebellar vermis. The most important functions of the cerebellum include controlling all body movements, maintaining balance and correcting body posture, as well as controlling the eyeballs [45]. In DS, the functions of the cerebellum are altered, which is mainly manifested by hypotonia.

### Forms and effects of hippotherapy

Pakulska et al. [29] describe the following forms of hippotherapy activities: 1) therapeutic horse riding – this is therapeutic gymnastics on a walking horse, aimed at improving the patient's mobility; 2) psycho-pedagogical horse riding and vaulting – a set of equestrian, pedagogical and psychological activities carried out to gain intellectual, cognitive, emotional and physical improvement; 3) horse contact therapy – its purpose is to establish contact between the patient and the animal.

In recent years, many publications have appeared discussing the effectiveness of horse therapy. They study mainly groups of patients with cerebral palsy and autism spectrum disorders. Fewer studies focus on people with dyspraxia and psychomotor hyperactivity [10]. Based on the analysis of the literature from databases, it can be concluded that the most widely used form of hippotherapy in the case of intellectual disability is therapeutic horse riding (Table 1).

**Table 1.** Analysis of the forms and effects of hippotherapy

Author	Form of therapy	Study participants	Effect of therapy
Ajzenman et al. [1]	THR – therapeutic horse riding	Children aged 5–12 (autism spectrum disorder)	Improvement of adaptive behaviour
Hessionet al. [16]	HR – horse riding	Children aged 6–15, (dyspraxia)	Improvement of cognitive functions
Kwon et al. [20]	THR – therapeutic horse riding	Children aged 4–10 (cerebral palsy)	Improvement of gross motor skills

**Table 1.** Analysis of the forms and effects of hippotherapy (cont.)

Author	Form of therapy	Study participants	Effect of therapy
Gabriels et al. [14]	THR – therapeutic horse riding	Children aged 6–16 (autism spectrum disorder)	Improvement in social communication
Matusiak-Wieczorek et al. [24]	THR – therapeutic horse riding	Children aged 6–12 (cerebral palsy)	Improvement of body posture
García-Gómez et al. [15]	CH – contact with a horse	Children aged 7–14, (psychomotor hyperactivity ADHD)	Improvement of interpersonal relationships
Champagne et al. [8]	HR – horse riding	Children aged 4–12 (cerebral palsy)	Improvement of gross and fine motor skills

### Review of results of the studies on the effectiveness of hippotherapy in improving balance in people with Down syndrome

Research by Moriello et al. [26] showed that a walking horse transmits multifaceted movement impulses typical of human walk, which affect the patient's balance, posture, and coordination. Proprioceptive stimulation obtained thanks to the right seat makes it possible to learn and consolidate optimal movement patterns, while regulating muscle tone [38].

The starting point in hippotherapy is the patient assuming the right, functional position on the horse, still motionless, when the horse is standing. The link through which the stimuli are transmitted to and from the horse is the pelvic part, in particular the ischial tuberosity. During hippotherapy, the pelvis of the patient sitting astride on the horse is in a middle position, between the anterior and posterior inclination, it is symmetrically loaded, perpendicularly to the direction of movement. The shoulder girdle is placed in a straight line over the pelvic girdle, not in protraction or retraction, without lateral displacement, perpendicular to the direction of movement. The head is an extension of the spine line; it is neither extended nor retracted. The seat allows the patient to receive any movement stimulation from the horse that affects coordination and joints [39, 44].

Many scientific studies emphasize the positive influence of horseback movements on the shaping of posture and balance reflexes. This relationship was confirmed by Bolach and Kozak [5], who noted an improvement in balance among people with Down syndrome who participated in hippotherapy classes. The authors of the study, using the Eurofit test of standing on one leg and a test of standing on the Balance Master mobile platform, indicated a greater ability to maintain balance, both static and dynamic, in people taking part in horse classes. The positive influence of hippotherapy on the balance of children with Down syndrome was also presented in the studies by Sipko et al. [41]. The purpose of the studies was to assess the influence of 6-month hippotherapy on the effi-

ciency of balance reactions. Eight children aged 8–12 years with mild and high level of intellectual disability were tested. The stabilographic method was used to evaluate the efficiency of their balance reactions. During the test, the children were asked to assume a relaxed standing posture, placing their feet hip-width apart. The measurement time was 10s. Body stability was measured in a relaxed standing position with open and closed eyes. On the basis of the course of the stabilographic curves, two parameters of body stability were calculated: the range of sways (in the sagittal and frontal planes) and the average speed of the sways. It has been proven that six-month hippotherapy had a positive effect on motor coordination. This correlation was also confirmed in the studies by Portaro et al. [33]. Also, Sawaryn [39] in her work emphasizes improved coordination of the patient's movements, balance skills, and the abilities of balancing with the trunk, as well as the normalization of muscle tone during hippotherapy. It is also worth noting Kwolek's results of the experiment [19], who showed an improvement in balance through the use of six-month hippotherapy in children with Down syndrome. The author conducted tests before beginning the therapy (once a week) and after its completion. The test consisted in performing 4 exercises in a standing position and 6 in a four-point kneeling position. The results obtained showed a significant improvement in static balance in people with profound intellectual disabilities.

An interesting assumption of the research was also presented by Lee and Jeoung [23], who undertook to determine the relationship between motor skills and problems related to the behaviour of young people with intellectual disabilities. They confirmed that disorders in terms of balance behaviour significantly influence the incidence of social problems in people with Down syndrome. There is evidence that it is possible to stimulate the mental state of people with Down syndrome through therapy with the participation of a horse [35]. Studies by Debusse et al. [11] have shown a reduction in emotional tension and growing calmness. Similar results were obtained in their work by Murphy et al. [27]. According to Bracegirdle [6], physical activity should not only focus on stimulating balance, but also trigger a sense of success and pleasure. According to reports by Lafferty [21], fitter people are better perceived by their community and have greater self-esteem.

## **Conclusions**

According to Sack and Buckley [36], both static and dynamic balance is one of the main coordination skills, which during the developmental process of children and adolescents allow them to learn and improve motor skills. Rehabilitation development has contributed to the use of neurodevelopmental methods

considered the most effective in improving the fitness of people with Down syndrome. Their main aim is to teach them the right movement patterns and to use the plastic properties of the children's nervous system [9]. On the basis of the analysis of the literature, it can be concluded that the most frequently obtained effects, thanks to the use of this form of therapy, include motor improvement leading to an improvement of balance and symmetrical distribution of pressure forces on the support plane and an improvement of the posture control mechanism [32].

The level of motor fitness is influenced by the relationship between the development of the physical and the intellectual sphere. Ulrich's reports [42] show that people with Down syndrome have difficulties in functioning in social life. One of the causes is body balance disorder as well as cognitive limitations caused by intellectual disability. According to Kasperczyk et al. [17], maintaining a balanced posture depends on the processing and interpretation of sensory information responsible for the neurophysiological regulation of body posture. That is why it is very important to stimulate the motor development of people with Down syndrome as early as possible. The need for early hippotherapy is supported by the fact that the nervous system of children up to the age of three is in the maturation stage and shows high plasticity, which allows the formation of new reflex arcs [28]. Plasticity, in addition to excitability, is the second basic feature of nerve cells, due to which permanent functional transformations occur in certain neuron systems as a result of the action of specific impulses of sensory stimulation or their combination [13]. Describing hippotherapy, Krupiński [18] draws attention to the need to maintain the right position of the child on a horse as long as possible, which contributes to the correct reception, coding and subsequent reproduction of the walk pattern. Moreover, there is a comprehensive motor stimulation and accumulation of multiple motor experiences. A wide base of coordination abilities is created and basic sensory functions are improved. Basic coordination skills are shaped, important in posture regulation, which, according to Kasperczyk et al. [17], has a reflexive character based on a large group of corrective reactions.

In light of the above considerations, it can be concluded that the improvement of balance may be an important component in the process of stimulating and compensating for the development of motor skills in people with Down syndrome. People with disabilities, and in particular those with intellectual disability, require comprehensive rehabilitation, taking into consideration educational, psychological, and social aspects. The latter aspect is particularly important due to the fact that the process involves the participation of therapists and parents or guardians of children who undergo therapy, which gives everyone satisfaction and a much-needed feeling of success.

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## Evaluation of the frequency of consumption of vegetables, fruits and products rich in antioxidants by amateur and professional athletes

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## Ocena częstotliwości spożywania warzyw, owoców i produktów bogatych w antyoksydanty przez amatorów i zawodowych sportowców

### Streszczenie

Sportowcy należą do grupy o szczególnych wymaganiach żywieniowych. Nasilona aktywność fizyczna może powodować zaburzenia równowagi oksydacyjno-redukcyjnej. Celem pracy była ocena częstości spożywania produktów spożywczych bogatych w przeciwutleniacze wśród amatorów i zawodowców uprawiających wybrane dyscypliny sportu. W badaniu wzięło udział 119 sportowców. Grupa badana składała się z amatorów uprawiający kulturystykę i CrossFit oraz zawodowych piłkarzy i szczypiornistów. Wykorzystano autorski kwestionariusz oceniający częstotliwość spożycia wybranych produktów o wysokiej zawartości przeciwutleniaczy. Najwyższa częstotliwość spożycia surowych owoców wśród amatorów wynosiła 5–6 razy w tygodniu (40,68%,  $n = 24$ ). Profesjonaliści sportowi zwykle raportowali 1 porcję dziennie (26,67%,  $n = 16$ ). Największa częstotliwość spożycia surowych warzyw wynosiła 2–4 porcje tygodniowo (37,29%,  $n = 22$ ) w grupie amatorów oraz 5–6 porcji tygodniowo (33,33%,  $n = 20$ ) w grupie profesjonalistów. Oceniono dodatkowo spożycie czerwonego wina. Większość respondentów z grupy amatorów (47,46%,  $n = 28$ ) i profesjonalistów (41,67%,  $n = 25$ ) nie spożywała wina. Wszyscy respondenci spożywali produkty spożywcze zawierające antyoksydanty w ilościach znacznie mniejszych niż zalecane. Uzyskane wyniki wskazują na potrzebę opracowania zaleceń żywieniowych dla sportowców w zakresie produktów żywnościowych bogatych w antyoksydanty, a także odpowiedniej edukacji żywieniowej.

**Słowa kluczowe:** przeciwutleniacze, częstotliwość spożycia pokarmów, sportowcy, wolne rodniki, piłka nożna, piłka ręczna, kulturystyka, CrossFit.

### Abstract

Athletes belong to a group with special nutritional needs. Strenuous physical activity causes an imbalance of oxidation reduction. The purpose of the study was to assess the frequency of consuming antioxidant-rich food products among amateurs and professionals practicing selected sports. A total of 119 athletes were included in the study. The study group consisted of amateur bodybuilders and CrossFit athletes, as well as professional football and handball players. A validated original questionnaire assessing the frequency of consumption of selected high-antioxidant products was used. The highest frequency of consuming raw fruits among amateur athletes was 5-6 times a week (40.68%,  $n = 24$ ). Sport professionals usually reported 1 serving a day (26.67%,  $n=16$ ). The highest frequency of consumption of raw vegetables was 2-4 portions a week (37.29%,  $n=22$ ) in amateurs group, and 5-6 portions weekly (33.33%,  $n = 20$ ) in professionals group. In addition, we evaluated the intake of red wine. Most of the amateurs (47.46%,  $n = 28$ ) and professionals (41.67%,  $n = 25$ ) did not consume wine. All the respondents consumed food products containing antioxidants in quantities that were much lower than those recommended. The obtained findings indicate the need to develop dietary recommendations on antioxidant-rich food products for athletes, as well as appropriate nutritional education.

**Keywords:** antioxidants, food frequency, athletes, free radicals, football, handball, bodybuilding, CrossFit.

## Introduction

The formation of reactive oxygen species (ROS) during exercise is a normal and necessary response to the body's adaptation to high physical load [13]. Several hundred different transcripts, including genes, are created that encode antioxidant proteins involved in oxygen transport, inflammatory and immune responses, and muscular hypertrophy during the first 24 hours after physical exercise as a consequence of the activity of reactive oxygen species [3]. On the other hand, inhibition of ROS production due to excess use of antioxidants compromises the athlete's adaptation to oxidative stress and physical exercise [12]. Normal dietary intake of products that are a source of antioxidants ensures a proper response to physical exercise. Furthermore, it eliminates the destructive effects of reactive oxygen species that can cause many diseases, such as cancer, glaucoma, or diabetes [12, 18]. Inadequate antioxidant supplementation may lead to impaired training adaptation and have a negative rather than positive impact on sport performance. A well-balanced diet is a key element and a natural source of antioxidants for athletes [12, 5, 20].

Training can have positive or negative effects on oxidative stress depending on the training load, training specificity, and the basal level of training [21]. The level of oxidative stress has varied between studies and appears to depend, among all, on the type, intensity, volume, and duration of exercise [22]. This leads to differences in oxidative status between athletes in different sport disciplines [23]. Both acute aerobic and anaerobic exercise has the potential to result in increased free radical production, which may or may not result in acute oxidative stress [24]. In order for oxidative stress to occur, ROS produced during exercise must exceed the antioxidant defense system present, resulting in oxidative damage to specific biomolecules. Different exercise protocols may induce varying levels of ROS production, as oxidative damage has been shown to be intensity and duration-dependent [25]. During low intensity and duration protocols, antioxidant defenses appear sufficient to meet ROS production, but as intensity and/or duration of exercise increases, these defenses are no longer adequate, potentially resulting in oxidative damage to surrounding tissues [26].

Aero-anaerobic type of physical activity includes more mechanisms for the production of oxidative stress [28]. Therefore, four different disciplines characterized by different types of activity were included in the study group.

Bodybuilding is a highly static activity aimed at muscle hypertrophy, characterized by anaerobic activity. CrossFit, on the other hand, is a high-intensity power training that involves mainly aero-anaerobic activities, as well as purely interval efforts, i.e., football and handball.

The purpose of the study was to assess the frequency of consuming high-antioxidant food products among amateurs and professionals performing se-

lected sports disciplines. We hypothesized that professional athletes would be characterized by a higher intake of antioxidant-containing products.

## Methods

### Participant Recruitment

The study included professional football and handball athletes and amateur bodybuilding and CrossFit athletes. The sports clubs included in the survey were located in the Silesian agglomeration and were selected for the study at random. The clubs' authorities agreed to conduct the survey among the players. The professional groups included players of PKO BP Ekstraklasa clubs (top Polish professional football league) and PGNiG Superliga clubs (top Polish professional handball league). The inclusion criteria for this group were 18 years of age or older and practising a professional sport of football or handball. For amateur groups, recreationally active bodybuilding and CrossFit athletes attended training sessions in 2 randomly selected gyms in the Silesian agglomeration. Inclusion criteria for amateurs group were to be at least 18 years of age, agreeing to participate in the study, and practise amateur bodybuilding or CrossFit at least 3 times a week for 60 minutes.

### Outcome measures

An original questionnaire including the respondent's details and study questions was used in the study. Personal data included age (years), body height (cm), body mass (kg), as well as type of sports discipline and practice duration. The questions included in the main part of the questionnaire referred to eating habits, which were determined by assessing the frequency of consuming selected food products considered to be sources of antioxidants. The questionnaire contained 9 questions on the frequency of consumption of food products, the questions were single choice. The athletes completed the questionnaires individually during consultations with the person conducting the survey. The time to complete the questionnaire was 15 minutes. The internal consistency, established with the use of the Cronbach's alpha test, was 0.88.

### Data Analysis

Six categories of consumption frequency (never; 1–2 portions per week; 3–4 portions per week; 5–6 portions per week; 1 portion daily; minimum two portions daily) were established to assess consumption rates for each product. Each category was assigned a rank from 1 to 6 (R) according to increasing frequency. The mean scores and standard deviation (*SD*) for the frequency of consumption

of each product and the mean rank deviation were calculated in both groups. The results obtained were analyzed statistically using Statistica v.10.0 software (StatSoft, Palo Alto, CA, USA).

Compliance of the variables with normal distribution was verified using the Shapiro-Wilk test prior to statistical testing. The Kruskal-Wallis test was used to check for equality across the groups. For the comparison of two groups (amateurs/professionals), the Mann Whitney *U* test was used. On the other hand, a non-parametric Kruskal-Wallis ANOVA was used to compare several groups (sports groups). As for correlation analysis, Spearman's correlation was used to determine the relationship between variables and training experience in the general population. The significance level was established at  $\alpha < 0.05$ .

## Results

### Participant characteristics

A total of 119 athletes were included in the study. The first group consisted of amateurs practising bodybuilding ( $n = 33$ ) and CrossFit ( $n = 26$ ), while the second group included professional footballers ( $n = 30$ ) and handball players ( $n = 30$ ). The characteristics of the study group are shown in Table 1.

**Table 1.** Characteristics of the study group (mean  $\pm$  SD)

Variable	Professionals ( $n = 60$ )		Amateurs ( $n = 59$ )	
	Football ( $n = 30$ )	Handball ( $n = 30$ )	Bodybuilding ( $n = 33$ )	CrossFit ( $n = 26$ )
Age [years]	23.90 $\pm$ 4.08	24.37 $\pm$ 4.15	25.00 $\pm$ 4.00	24.30 $\pm$ 3.78
Body mass [kg]	77.2 $\pm$ 4.96	81.50 $\pm$ 7.05	81.9 $\pm$ 8.89	89.69 $\pm$ 8.97
Body height [cm]	182.70 $\pm$ 6.42	184.47 $\pm$ 6.7	182.18 $\pm$ 6.38	182.61 $\pm$ 6.28
BMI [kg/m <sup>2</sup> ]	23.33 $\pm$ 1.40	24.1 $\pm$ 2.10	25.4 $\pm$ 3.40	22.11 $\pm$ 1.87
Training experience [years]	9.00 $\pm$ 1.34	7.17 $\pm$ 0.64	3.24 $\pm$ 0.32	3.00 $\pm$ 0.32

### Nutritional habits

Statistically significant differences were found in the frequency of consumption of some of the products. The amateur respondents showed significantly higher intake of raw vegetables ( $p = 0.02$ ) and steamed coffee ( $p = 0.04$ ). The professional groups responded statistically significantly more often to the consumption of raw fruit ( $p = 0.02$ ), red wine ( $p = 0.04$ ), and tea ( $p = 0.01$ ).

Raw fruit was consumed more often by the amateur groups. Most of the respondents in the professional groups declared 1 portion a day. In amateur

groups, most of the respondents declared 3–4 portions of raw vegetables a week, whereas most of the respondents in professional groups consumed 5–6 portions per week. Raw vegetable oils were usually incorporated into meals 3–4 times a week. The respondents most often consumed herbs and spices 5–6 times a week. Most of the respondents in amateur groups consumed tea 3–4 times a week, while the majority of the respondents in the professional groups did not. The majority of the respondents in both groups declared that they did not consume natural cocoa. Coffee was most often consumed by amateur athletes 1–2 times a week, while most of the professional sportspeople did not consume brewed coffee.

The analysis of the frequency of consumption of antioxidant-rich products, including mean consumption frequency ranks, standard deviations, and statistically significant differences between amateur and professional athletes practising selected sport disciplines is presented in Table 2.

**Table 2.** Frequency of consumption of selected antioxidant-rich products in the amateurs and professionals (mean  $\pm$  SD)

Food products	Amateurs (n = 59)	Professionals (n = 60)	p value
<b>Raw fruit</b> (1 portion = 2 handfuls of raspberries, 2 mandarins, 1 apple, 2 kiwis, 1 orange)	3.51 $\pm$ 0.88	3.77 $\pm$ 1.29	0.02
<b>Raw vegetables</b> (1 portion = 1 carrot, 100 g of cauliflower, 1 tomato, ½ pepper)	4.09 $\pm$ 1.05	3.73 $\pm$ 1.13	0.02
<b>Vegetable oils eaten raw</b> (1 portion = 1 tablespoon of oil)	3.70 $\pm$ 1.44	3.33 $\pm$ 1.17	0.28
<b>Herbs and spices</b> (1 portion = 1 teaspoon of herbs or spices)	3.63 $\pm$ 1.26	3.68 $\pm$ 1.11	0.29
<b>Red wine</b> (1 portion = 1 glass / 100 ml)	1.93 $\pm$ 1.15	1.94 $\pm$ 0.93	0.04
<b>Tea</b> (1 portion = 1 mug / 200 ml)	2.98 $\pm$ 1.07	3.07 $\pm$ 1.51	0.01
<b>Natural cocoa</b> (1 portion = 1 drink / 200 ml, 1 spoon powder / 10 g)	1.80 $\pm$ 1.03	1.85 $\pm$ 1.27	0.42
<b>Steamed coffee</b> (1 portion = 1 cup / 200 ml)	2.63 $\pm$ 1.39	2.57 $\pm$ 1.74	0.04
<b>Raw juice</b> (1 portion = 1 glass/ 200 ml)	2.03 $\pm$ 1.13	2.27 $\pm$ 1.23	0.31

Statistically significant differences were found in the consumption of red wine ( $p = 0.001$ ), tea ( $p = 0.001$ ), steamed coffee ( $p = 0.02$ ) and fresh juice



( $p = 0.04$ ) depending on the sport played. The football players consumed less red wine and more tea and fresh juice than other athletes, while the handball players consumed less steamed coffee than other athletes. The results are shown in Table 3.

**Table 3.** Frequency of consumption of selected antioxidant-rich products according to disciplines (mean  $\pm$  SD)

Food products	Bodybuilding (n = 33)	CrossFit (n = 26)	Football (n = 30)	Handball (n = 30)	p value
<b>Raw fruits</b> (1 portion= 2 handfuls of raspberries, 2 mandarins, 1 apple, 2 kiwis, 1 orange)	3.58 $\pm$ 0.70	3.83 $\pm$ 0.51	3.42 $\pm$ 0.59	3.70 $\pm$ 0.57	0.15
<b>Raw vegetables</b> (1 portion = 1 carrot, 100 g of cauliflower, 1 tomato, ½ peppers)	4.18 $\pm$ 0.55	3.96 $\pm$ 0.56	3.90 $\pm$ 0.58	3.57 $\pm$ 0.69	0.12
<b>Vegetable oils eaten raw</b> (1 portion = 1 tablespoon of oil)	3.81 $\pm$ 0.53	3.54 $\pm$ 0.37	3.37 $\pm$ 0.46	3.30 $\pm$ 0.54	0.20
<b>Herbs and spices</b> (1 portion = 1 teaspoon of herbs or spices)	3.73 $\pm$ 0.57	3.31 $\pm$ 0.57	3.50 $\pm$ 0.43	3.70 $\pm$ 0.54	0.28
<b>Red wine</b> (1 portion = 1 lamp / 100 ml)	1.89 $\pm$ 0.20	2.00 $\pm$ 0.35	1.33 $\pm$ 0.35	2.10 $\pm$ 0.39	0.001
<b>Tea</b> (1 portion = 1 glass / 200 ml)	3.06 $\pm$ 0.43	2.89 $\pm$ 0.46	3.57 $\pm$ 0.49	2.57 $\pm$ 0.51	0.001
<b>Natural cocoa</b> (1 portion = 1 glass drink / 200 ml, 1 spoon powder / 10 g)	1.94 $\pm$ 0.27	2.89 $\pm$ 0.46	1.62 $\pm$ 0.26	1.57 $\pm$ 0.26	0.46
<b>Steamed coffee</b> (1 portion = 1 glass / 200 ml)	2.52 $\pm$ 0.44	2.77 $\pm$ 0.20	3.10 $\pm$ 0.32	1.97 $\pm$ 0.21	0.02
<b>Raw juice</b> (1 portion = 1 glass/200 ml)	1.79 $\pm$ 0.25	2.08 $\pm$ 0.24	2.70 $\pm$ 0.32	1.83 $\pm$ 0.30	0.04

There were no statistically significant differences in the frequency of consumption of antioxidant-rich products according to training experience.

## Discussion

Athletes have special nutritional requirements as a number of processes in the body intensify during physical exercise. This is associated with an increased demand for energy, nutrients, vitamins, and minerals [12, 18]. The demand for

antioxidant compounds, which are a key element in maintaining body homeostasis, also increases [8, 2].

The study showed that the amateur and professional athletes practising selected sport disciplines commit many nutritional errors and do not incorporate appropriate amounts of antioxidant-rich products into their meals. The most commonly overlooked food products include raw vegetables, raw vegetable oils, herbs and spices, tea, natural cocoa, and fresh juices. Raw vegetables were consumed on average 3–6 times a week, vegetable oils 3–4 times weekly, herbs and spices 5–6 times a week. The sport amateurs consumed tea 3–4 times a week, whereas the sport professionals usually resigned from tea. The athletes usually did not incorporate natural cocoa and fresh juices into their diet.

Most studies investigating post-training regeneration in athletes tend to focus on supplementation rather than food products. It is not easy to assess the impact of food due to difficulties in grouping products based on the type and content of antioxidants. However, the protective effects of diets that contain natural sources of antioxidants are probably equivalent to or even more beneficial than those of supplements. Food contains antioxidants in natural proportions, allowing synergistic action to optimize the effects. A diet rich in antioxidants may represent a non-pharmacological and natural way to maintain physiological homeostasis [7].

When comparing the results to the food pyramid for athletes developed by the Swiss Society for Nutrition, it can be seen that the frequency of consumption of selected food products is not in line with the recommended standards [8, 2, 7]. Raw fruit was consumed in 5–6 portions a week by most of the respondents in amateur groups and 1 portion daily in professional groups, while the recommended intake is 2 portions a day. According to current recommendations, 3 servings of vegetables should be consumed daily, while our results indicate 5–6 portions a week in the professional sportsmen and 3–4 portions a week in the amateurs. The food pyramid includes recommendations on raw fat intake. The recommended amount is one serving, that is, about 10 g. Both the professional and amateur athletes practising selected sports disciplines usually consumed 3–4 servings a week. The food pyramid suggests the possibility of replacing 1 serving of vegetables or fruit with 200 ml of juice. A large proportion of the respondents (42.37% in the amateur groups and 35% in the professional groups) did not consume products from this group [16].

Cristian Petri et al. evaluated eating habits among Italian elite football players playing in the 2014–2015 season during the preparatory period, during the match season, and after the season [10]. The authors showed that their dietary habits were not in line with the recommended international guidelines. The intake of vegetables and fruits deviated from accepted standards, while the intake

of vegetable oils was considered sufficient [10]. Our findings confirm that the intake of raw oils was 3–4 servings a week in both groups.

In their work, Sousa and Teixeira presented cherries, blueberries, and pomegranate as products showing beneficial effects on changes occurring after physical exercise [14]. Cherries show anti-inflammatory properties by inhibiting cyclooxygenase-2 activity, as well as they reduce pain. The meta-analysis suggested an improvement in sport performance after incorporating cherries into the diet of athletes [14]. Hawtson et al. conducted their study in 20 recreational marathon runners, who were divided into two groups. The first group consumed cherry juice and the other group received placebo for 5 days before the marathon, on the day of the marathon and for two days after the run. Inflammation and antioxidant status were assessed before and after the race. Reduced IL-6, CRP and uric acid, an increase of approximately 10% in TAS, as well as a reduction in TBARS after 24 hours were shown in the cherry juice [4]. Abbas Yavari et al. found out that a well-balanced diet rich in natural antioxidants and phytochemicals is the best recommendation regarding antioxidant intake in athletes [6].

### **Practical recommendations**

Regular intake of fresh fruit and vegetables, grains, legumes, and seeds is an effective and safe way to maintain oxidant balance in physically active individuals. Increased production of free radicals induced by strenuous exercise may exceed the body's defense mechanisms and promote oxidative conditions. However, both positive and negative aspects of the generation of free oxygen species in athletes are contemplated. Scientific reports presenting controversial data have been published, some authors claiming that antioxidant supplementation prevents healthy effects of physical exercise and can be harmful by delaying muscle regeneration, as well as that it may also reduce the positive effects of physical exercise on increasing insulin sensitivity [4, 19].

Vitamin C used at different doses, alone or in combination with other antioxidants, is the most widely used antioxidant [11]. The results on the protective role of the vitamin are inconsistent, and the used dose is one of the key determinants of these differences.

A dose of 200 mg/day may be considered optimal as it allows full cell saturation [1]. A diet including five to nine portions of raw or steamed fruit and vegetables, and 200 ml of fresh orange juice is able to provide the proposed 200 mg dose of vitamin C. The vitamin C intake range is 95 to 520 mg per day for male athletes [1]. Vitamin C supplementation at a dose greater than 1 g per day may induce pro-oxidative effects, as shown in a study in 23 athletes subjected to strenuous physical activity [15].

Polyphenols, such as quercetin, curcumin, resveratrol, and catechin, are an important class of antioxidants. The study was carried out in young, fit and physically active people who received 500 mg of quercetin and 250 mg of vitamin C supplementation for 8 weeks. The study confirmed a reduction in oxidative stress and increased exercise capacity [11].

Resveratrol is an example where the results of many studies show a narrow border between antioxidant and oxidant properties, both in vitro and in vivo, in acute and chronic supplementation [11]. At a dose of 100  $\mu$ M, it can switch from antioxidant to pro-oxidant behavior, increasing in vitro DNA damage with intensity depending on the basic oxidative stress [15]. Our study showed that 52.54% of the respondents in the amateur groups and 58.33% of the respondents in the professional groups consume red wine.. Despite the positive effects of some compounds contained in wine, e.g., resveratrol, the beverage contains alcohol, which should be completely eliminated from the diet [11].

Ostman et al. investigated the effects of coenzyme Q10 supplementation on oxidative stress and physical performance in their randomized 8-week study. The daily dose of coenzyme Q10 was 90 mg. The other group received a placebo. The subjects were aged 19 to 44. The tests were performed before and after the intervention. No differences were found for the levels of hypoxanthine and uric acid, which are serum markers of oxidative stress [9, 17]. In the available literature, no studies on the frequency of consumption of antioxidant-rich products have been found. Therefore, the findings obtained may be of comparative value.

### **Study limitations**

One of the limitations of the conducted research is the size of the study group; however, it should be emphasized that many exclusion criteria were defined. The limitation of the study is the lack of representativeness of players from other clubs and other sports disciplines. However, such an attempt is worth considering and such studies are planned by the authors. Surveys are subject to the risk of error; however, it should be pointed out that the authors made every effort to minimize the systematic error in the study.

### **Conclusions**

Based on the results obtained, it was found out that both the professional and amateur athletes consumed food products containing antioxidants in quantities significantly different from the recommended ones. There were no significant differences in the intake of antioxidant-rich products depending on the sport practice or training experience. The obtained findings indicate the need to develop dietary recommendations on an antioxidant-rich diet for athletes.

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### STATEMENT OF ETHICS

This study was conducted in accordance with the World Medical Association Declaration of Helsinki. The study protocol was reviewed and approved by the Bioethics Committee of the Silesian Medical University in Katowice (PCN/0022/KB/68/1/20, Katowice, Poland). All participants provided written informed consent to participate in this study.

### DECLARATION OF CONFLICTING INTERESTS

The authors declared no potential conflicts of interests with respect to the research, authorship, and/or publication of the article *Evaluation of the frequency of consumption of vegetables, fruits and products rich in antioxidants by amateur and professional athletes*.

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## Risk Factors for Posture Disorders of Esportsmen and Master Degree Students of Physical Education and Sports in the Specialty “Esports”

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## Czynniki ryzyka zaburzeń postawy e-sportowców i studentów studiów magisterskich wychowania fizycznego i sportu w specjalności „e-sport”

### Streszczenie

Celem pracy było zbadanie czynników ryzyka zaburzeń postawy u e-sportowców i studentów studiów magisterskich kultury fizycznej i sportu. W badaniach wzięło udział 37 sportowców i studentów. Badania wykazały, że 32,4% z nich spędza przy komputerze ponad sześć godzin dziennie. Wykazano, że na postawę badanych najbardziej negatywnie wpływa obniżony poziom siły kończyn dolnych i tułowia, brak aktywnych przerw podczas długiej pracy z komputerem, brak świadomości w profilaktyce zaburzeń postawy podczas pracy z komputerem i zaniedbanie kontrolowania postawy użytkownika komputera. Badania sugerują strukturę czynników, które negatywnie wpływają na kondycję postawy e-sportowców i magistrantów specjalności „e-sport”. Struktura ryzyka zaburzeń postawy zawiera trzy czynniki, które wyjaśniają 66,2% całkowitej wariancji: „Niezastosowanie się do ergonomicznie optymalnej postawy użytkownika komputera”, „Zaburzenia układu mięśniowo-szkieletowego e-sportowców” oraz „Brak środków neutralizujących negatywny wpływ działań e-sportowych”. Niezbędne jest opracowanie i wdrożenie działań prozdrowotnych w profilaktyce zaburzeń postawy oraz chorób układu ruchu u e-sportowców i studentów.

**Słowa kluczowe:** e-sportowcy, czynniki ryzyka, użytkownik komputera, pozycja robocza, postawa.

### Abstract

The purpose of this study was to investigate the risk factors for posture disorders in esportsmen and master's degree students of physical culture and sports. The research involved 37 sportsmen and students. The research has found out that 32.4% of the respondents spend more than six hours a day on a computer. The research has proven that the posture of the respondents is most negatively affected by the reduced strength level of the lower extremities and torso, lack of active breaks during long work with a personal computer (PC), lack of awareness in the prevention of posture disorders when working with a PC, and neglect to control a PC user posture. The research suggests the structure of factors that negatively affect the posture condition of esportsmen and master's degree students in the specialty "Esports". The structure of risks for postural disorders contains three factors, that explain 66.2% of the total variance: "Failure to comply with the ergonomically optimal posture of a PC user", "Disorders of the musculoskeletal system of esportsmen" and "Lack of measures to neutralize the negative impact of esports activities". It is necessary to develop and implement health-improving measures to prevent postural disorders and diseases of the musculoskeletal system in esportsmen and students.

**Keywords:** esportsmen, risk factors, PC user, working pose, posture.

### Introduction

Esports is gaining a stronger position in the gaming industry segment, gathering momentum as a promising business sector and as a popular sport that has

now received its official status. At the same time, there are serious reasons to expect the inclusion of esports in the program of the 2024 Olympic Games [22].

The rapid development of the cyber industry, the official recognition of esports and its active promotion as a new Olympic discipline – all this has led to the expansion of the problem field of modern Olympic sports and contributed to the formation of a new scientific field related to esports. Scientists have begun to study the origins of esports and the peculiarities of its formation [1]. As of today, the conceptual apparatus of esports science has been clarified [8], the educational-professional program “Esports” of the master’s level of higher education in the specialty 017 “Physical Culture and Sports” has been developed and implemented, the role of esports in educational and entertainment practices of modern youth has been analyzed [16]. There are studies on esports’ legal [22] and economic aspects [7], the research is conducted on the problems of statistical analysis and forecasting the results of esports competitions [17, 23].

However, the rapid development of esports has led to the appearance of new issues. Pedagogical observations prove that esports activities are accompanied by a predominantly sedentary lifestyle, which, provided that the optimal distribution of esports activities and recreation is not observed, can pose a threat to the health of esportsmen. In general, esportsmen are affected by a number of dangerous and harmful factors: reduced physical activity, lack of recreational health activities during the day, and significant psycho-emotional stress. However, the greatest risk to the health of esportsmen is probably static and dynamic load on their musculoskeletal system. It should be noted that static load on the spine and muscles, which are involved in maintaining a static posture of a personal computer (PC) user, is a significant risk factor for players’ posture disorders and poses a threat to their musculoskeletal system. Moreover, the violation of the ergonomically optimal posture of a PC user exacerbates the negative impact of the factor. Similarly, the same type of load on the hand muscles, when using a computer mouse, is harmful for esportsmen.

Domestic scientists have long conducted research aimed at assessing the state of the bio-geometric profile of the posture of different groups [10, 11, 13, 21]. Researchers pay special attention to the modelling of the rational posture of a PC user in the system “human-computer” [14], and to the organization of pedagogical control over the observance by students of higher education institutions of an ergonomically optimal posture of a personal computer user in the educational process [3, 12].

However, despite the fact that esports activities are accompanied by excessive static load on the musculoskeletal system of esportsmen and excessive dynamic local load on the hand muscles, it is still unknown, which risk factors for posture disorders of esportsmen and master degree students of physical education and sports in the specialty “Esports” are the most threatening.

The purpose of the research is to investigate the risk factors for posture disorders of esportsmen and master's degree students of physical culture and sports in the specialty "Esports".

## Methods

### Participants

The research was conducted at the Department of Innovation and Information Technologies in Physical Culture and Sports of the National University of Physical Education and Sport of Ukraine (NUPESU). It involved 37 sportsmen specializing in esports and students of the NUPESU, who are studying according to the educational-professional program "Esports" for their master's degree of higher education in the specialty 017 "Physical Culture and Sports". In addition, the research involved 14 students of the NUPESU studying according to the educational-professional program "System of training sportsmen in water sports" for their master's degree of higher education in the specialty 017 "Physical Culture and Sports". All procedures performed in the studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. All subjects of the institutional survey gave consent for anonymized data to be used for publication purposes.

### Measures

The study involved such research methods as the theoretical analysis of literature sources, questionnaires, and statistical analysis, namely factor, correlation, and frequency analyses.

To conduct a survey using the Google Form, a questionnaire was developed and distributed to potential respondents through all possible means of disseminating information (primarily, Viber and Telegram). The obtained results were subject to statistical analysis. Each of the proposed questions involved choosing one of the three answers (Yes / Sometimes (Partially) / No). The processing of personal data was preceded by quantification of survey results, i.e. transfer of information into numerical form. Numbers 3 and 1 marked answer "Yes" and "No", depending on the question, and the intermediate result was marked with number 2.

## Data analysis

STATISTICA 10.0 (StatSoft, USA) software package was used for data analysis. In the course of the statistical analysis when testing statistical hypotheses  $H_0$ , the level of significance was accepted  $\alpha = 0.05$  ( $p < 0.05$ ). It should be noted that when the calculated value of  $p$  was less than 0.0001, in the research it is presented as " $p < 0.01$ ". The hypothesis  $H_0$  about the conformity of the observed data to the normal distribution law was tested using the Shapiro-Wilk consistency criterion  $W$ . In the case when  $p > 0.05$ , it was concluded that the analyzed distribution did not differ from normal [15].

All average indicators calculated on data other than normal are presented below as median and interquartile range (Me; 25; 75), and others – with the help of  $M$  – average value and  $SD$  – standard deviation ( $M \pm SD$ ).

The comparative analysis of the duration of time spent by respondents in training and competition periods was performed using non-parametric Wilcoxon T-test and the comparative analysis of the duration of being in the working position of a PC user depending on the level of sportsmanship and achievements was conducted with the use of Mann-Whitney U-test [5]; the comparative analysis of factors that negatively affect the posture of esportsmen was performed using the Kruskal-Wallis H-test.

The research widely used the frequency analysis. The observed distribution of respondents by answers to the questions was compared with an even distribution using Pearson's chi-squared test  $\chi^2$ . Pearson's chi-squared coefficient  $P$  and Fisher's angular criterion  $\varphi$  [6] were used to assess the statistical significance.

One of the research tasks was the development of a questionnaire and verification of its reliability and validity [2]. The questionnaire contained a motivational address to the respondents, a question part aimed at studying the contingent, and the main part aimed at solving the research tasks.

The reliability of the questionnaire was checked using Cronbach's alpha reliability test for surveys. It should be noted that at this research stage some questions for which the coefficient was less than 0.65 were removed from the questionnaire, namely the question "Indicate the length of time you usually spend at the computer" and "Are you interested in questions about what posture-preserving measures are recommended for long-term work with a PC?" After that, all the obtained coefficients were quite reliable, which indicates the consistency of the questionnaire (Table A1).

In addition, as recommended by the scientist [2], we assessed the reliability of the questionnaire with the Theta reliability using Varimax factor analysis. After the rotation of the main components, a three-factor model was constructed, which explains 66.2% of the total variance. The absolute weight of the main

component was 3.42, and the Theta reliability factor was 0.66. Therefore, the developed questionnaire has a factor structure, and the total coefficient of the explanatory variance exceeds 0.51, which indicates its stability and reliability (Table A2).

The standardization of the questionnaire was based on the assumption that the answers to the same questions of different groups of PC users are correlated. Thus, we compared the answers to some questions of the questionnaire, which we took as control ones, by students of the NUPESU studying according to the educational-professional program "System of training athletes in water sports" for their master's degree of higher education with the answers of a group of respondents who participated in the research. It should be noted that given the online form of learning of modern students, they are forced to work with a PC much more time than in the classroom. In the course of the research, we established a correlation between their answers. The calculations have shown the absence of statistically significant correlations in the answers of respondents from different groups to the question "Do you know what PC user posture is ergonomically optimal?" ( $P = 2.73$ ;  $p = 0.255$ ), "Do you control the working posture of a PC user" ( $P = 3.47$ ;  $p = 0.177$ ) and "Do you take active breaks during long work with a PC" ( $P = 1.410$ ;  $p = 0.494$ ).

In addition, the validity of the developed questionnaire was checked. The correlation analysis has revealed direct statistically significant correlations ( $p < 0.05$ ) between the proposed questions of the questionnaire, which suggests the existence of commonality between all questions of the questionnaire (Table A3).

## Results

Considering the contingent of the research participants, it should be noted that the age of esportsmen and master's degree students of physical culture and sports in the specialty "Esports" ranged from 17 to 34 years old and made  $22.1 \pm 3.5$ . At the same time, the competition and game experience of the research participants differed significantly (from 1 to 18 years) and its median value was (5; 2; 8) years.

To cluster the participants of the survey and to divide them into groups according to the level of sportsmanship and achievements, the questionnaire included the question "What category of players do you belong to?" which offered three possible answers: an amateur, a gamer and a professional. As the practice of Ukrainian esports has not yet defined sports categories and sports titles, the previous communication with esportsmen allowed identifying these levels, which cover the entire range of players and future esports professionals.

Therefore, further, by an amateur we mean an esportsman in the broadest sense of the word, who is fond of computer games, is engaged in esports in their free time and has the opportunity to develop in this sport and related activities in the cyber industry.

In turn, by a gamer, we mean a novice esportsman who participates in esports competitions and in the course of esports training and development of gaming skills is a potential professional esportsman.

Accordingly, we considered a professional esportsman to be a person engaged in one (or several) esports disciplines as a professional activity and participating in international esports tournaments.

Thus, the research showed that amateurs predominated among the respondents: their share was 54.1% ( $n = 20$ ) of respondents. The shares of gamers and professional players were 29.7 and 16.2%, respectively.

Regarding social status, almost half of the respondents (48.7%;  $n = 18$ ) were university students, and 37.8% ( $n = 14$ ) were master's degree students of the NUPESU, who in the vast majority were not professional players, one of the respondents worked in the cyber industry and the rest were engaged in esports in their free time.

The majority of respondents, namely 67.6% ( $n = 25$ ) of them, answered that they spent at the computer up to 6 hours a day. It should be noted that 64% ( $n = 16$ ) of respondents who played computer games for up to 6 hours a day were amateurs.

Among other answers, the most common were 7-8 hours (13.5%;  $n = 5$ ) and more than 12 hours (10.8%;  $n = 4$ ). The remaining 8.1% of the respondents were distributed according to the answers to groups of esportsmen who spent 6–7 or 9–10 hours a day at the computer. It was proved that among the players who were at the computer up to 6 hours a day, the share of amateurs was statistically significant ( $p < 0.05$ ).

The research has found out that in the pre-competition and competition periods, the share of esportsmen and future esports professionals who spend at the computer up to 6 hours a day is reduced by 10.8% and makes 56.8% ( $n = 21$ ). At the same time, the share of players who spend more than 12 hours a day at the computer remains unchanged.

In the course of the comparative analysis of the length of daily stay of esportsmen at the computer, depending on the period, we have found the mid-points of the intervals and checked that the input data does not comply with the normal distribution law. Thus, the Shapiro-Wilk criterion for data during the training period is  $W = 0.604$  ( $p < 0.01$ ), and for the competition period it is  $W = 0.745$  ( $p < 0.01$ ). The median value of the duration of the respondents' stay at the computer during the training period is (5.5; 5.5; 7.5), and during the competition period (5.5; 5.5; 9.5) hours per day.

According to Wilcoxon T-test, the length of stay of the respondents at the computer does not significantly change statistically depending on the period ( $T = 15$ ;  $z = 1.88$ ;  $p = 0.06$ ). Although the share of amateurs who stay in the working position of a PC user less than 6 hours a day statistically significantly exceeds the share of gamers and professionals with a given duration of daily work with a PC ( $\varphi = 2.125$  at  $p < 0.05$ ), the average length of their stay at the computer does not significantly differ statistically ( $U = 124$  at  $p > 0.05$ ).

The next block of questions was aimed at studying and analyzing the risk factors for posture disorders among esportsmen and master's degree students of physical education and sports in the specialty "Esports".

The analysis of the answers to the question "Do you control the working posture of a PC user while working with a computer?" has shown that less than a half of the respondents, namely 48.7%, control posture while working with a PC. At the same time, almost a quarter of the respondents, namely 21.6%, said they did not think about this issue at all.

According to the calculations, in each of the subgroups of the respondents the share of those who try to adhere to the ergonomically optimal posture of a PC user prevailed: among amateurs, their share was 40%, among gamers – 54.5%, and among professional players – 66.7%. On the other hand, among the total number of respondents who answered in the affirmative, the share of amateurs prevails (only 44.4%) and the smallest is the share of professionals (only 22.2%). As for the respondents who did not think about this issue at all, there were no professionals among them, while 62.5% were amateurs. However, the share of amateurs is not statistically significantly different from the share of gamers and professionals who control the working posture of a PC user ( $\varphi = 1.148$ ;  $p > 0.05$ ), and the share of amateurs who do not control the working posture of a PC user is statistically significantly lower than of those amateurs who control the working posture always or sometimes ( $\chi^2 = 5.0$ ;  $df = 1$ ;  $p = 0.025$ ) (Table 1).

The next question of the main part of the questionnaire concerned the level of the respondents' awareness about the concept of "ergonomically optimal posture of a PC user". The distribution of the respondents by answers to the question "Do you know what PC user posture is ergonomically optimal, what are the posture risks for esportsmen and how to eliminate these risks?" has shown that among the respondents related to the esports industry who spend at least 5 hours and 30 minutes a day at a computer, only a quarter have full theoretical knowledge about posture disorders prevention while working with a PC. At the same time, the rest of the respondents, namely 75.0%, said that they were partially acquainted with this issue.

The following fact is alarming: the share of gamers and professionals, who have sufficient theoretical knowledge about the posture risks for PC users and ways to overcome them, together amounted to 46.4%, which, if the trend con-



tinues, may threaten their posture. At the same time, the study has shown that among the respondents who do not have good theoretical knowledge of the posture issues, a statistically significant majority are amateurs ( $\chi^2 = 6.25$ ;  $df = 2$ ;  $p = 0.039$ ).

The distribution of respondents by answers to the question "Do you regularly engage in health-improving motor activity?" proves that in general esportsmen and master's degree students of physical education and sports in the specialty "Esports" are engaged in physical culture and sports: 70.3% of respondents answered "Yes". Among amateurs, the distribution of answers to the question was as follows: "Yes" – 65.0%, "Sometimes" – 30.0%, "No" – 5.0%; among gamers – 72.7 and 27.3%, and among professionals – 83.3 and 16.7%, respectively. At the same time, 50.0% of amateurs, 30.8% of gamers and 19.2% of professionals were among the respondents who answered in the affirmative. The analysis has shown that the distribution of amateurs regarding the regularity of health-improving motor activity is statistically significantly different from the average ( $\chi^2 = 10.895$ ;  $df = 2$ ;  $p = 0.004$ ).

The research has revealed that 37.8% of all the respondents take breaks for mini-sets of exercises while working at a computer. The distribution of amateurs, gamers and professionals was as follows: 64.3, 14.3 and 21.4%, respectively. The results of the respondents' distributions somewhat differ regarding the question "Do you take active breaks during long work with a PC?" 75% of amateurs and 25% of gamers take active breaks, while 54.5% of amateurs, 27.3% of gamers and 18.2% of professionals never do. On the other hand, 50.0% of professional players gave an affirmative answer to this question.

It has not been proven that the share of amateurs who take breaks to perform mini-sets of exercises while working with a computer is statistically significantly higher than the combined share of gamers and professionals ( $\varphi = 0.983$ ;  $p > 0.05$ ). At the same time, the share of professionals who do not take active breaks at all is statistically significantly lower compared to the combined share of amateurs and gamers ( $\chi^2 = 8.33$ ;  $df = 1$ ;  $p = 0.004$ ). The situation is similar regarding gamers ( $\chi^2 = 4.45$ ;  $df = 1$ ;  $p = 0.034$ ) and professionals ( $\chi^2 = 9.0$ ;  $df = 1$ ;  $p = 0.003$ ) who sometimes take active breaks while working with a PC (Table 1).

The answer "No" was given by a statistically significantly ( $\chi^2 = 4.568$ ;  $df = 1$ ;  $p = 0.033$ ) lower number of professionals than amateurs and gamers together. At the same time, among professionals, a higher percentage of those who take active breaks while working with a PC is statistically significant ( $\chi^2 = 4.568$ ;  $df = 1$ ;  $p = 0.033$ ). The research has revealed that among gamers the percentage of those who answered in the affirmative is statistically significantly ( $\chi^2 = 9.757$ ;  $p = 0.002$ ) lower than the combined number of those who answered "Sometimes" or "No".

The research shows that 78.4% of esportsmen and future esports professionals indicated no posture disorders. Among them, 51.7% are amateurs, 34.5%

are gamers, and 13.8% are professionals, and the defined distribution differs from the uniform ( $\chi^2 = 6.274$ ;  $df = 2$ ;  $p = 0.043$ ). On the other hand, amateurs predominate among respondents without postural disorders ( $\chi^2 = 5.0$ ;  $df = 1$ ;  $p = 0.025$ ). However, 16.2% and 5.4% of respondents have posture disorders and spinal diseases, respectively.

**Table 1.** Distribution of esportsmen and master's degree students of physical education and sports in the specialty "Esports" regarding control of the working posture of a PC user and regarding taking active breaks while working with a PC

	Total	Amateurs ( <i>n</i> = 20)	Gamer ( <i>n</i> = 11)	Professional ( <i>n</i> = 6)	<i>p</i> -value
Control of the working posture					
Yes, <i>n</i> (%)	18 (48.6)	8 (44.5)	6 (33.3)	4 (22.2)	0.56
Sometimes, <i>n</i> (%)	11 (29.7)	7 (63.6)	2 (18.2)	2 (18.2)	0.37
No <i>n</i> , (%)	8 (21.7)	5 (62.5)	3 (37.5)	0 (0.0)	0.48
Taking active breaks					
Yes, <i>n</i> (%)	14 (37.8)	9 (64.3)	2 (14.3)	3 (21.4)	0.28
Sometimes, <i>n</i> (%)	11 (29.7)	6 (54.5)	3 (27.3)	2 (18.2)	0.76
No <i>n</i> , (%)	12 (32.4)	5 (41.7)	6 (50.0)	1 (8.3)	0.56

Note: *p*-value when comparing observed and expected frequencies of animators and gamers together with professionals.

At the same time, 70.3% of respondents do not feel discomfort after long work with a PC, of which 53.9% are amateurs, 34.6% –gamers, and the remaining 11.5% – professionals. It should be noted that the share of amateurs among them is statistically significant ( $\chi^2 = 6.997$ ;  $df = 2$ ;  $p = 0.030$ ). According to the research, 29.7% of esportsmen and master's degree students of physical education and sports in the specialty "Esports" complained of muscle pain after static load in the working position of a PC user, which may indirectly indicate a reduced level of basic muscle groups of their bodies. It should be added that among respondents who experience discomfort in the muscles involved in maintaining posture after prolonged work with a PC, there are 54.6% of amateurs, 18.2% of gamers and 27.3% of professionals.

The research has found out that 16.2% of respondents do not have a specially designed PC user workplace, and another 8.1% have a partially equipped workplace in terms of ergonomics. It should be emphasized that all the interviewed professionals say that their workplaces are properly arranged.

Regarding the condition of the bio-geometric profile of the working posture of a PC user, among the respondents, 29.7% have a reduced assessment of the position of the torso, 8.1% of the position of the upper extremities and 24.3% of the position of the lower extremities.

The research has proven that the share of the respondents (78%) with a low or medium level of torso position when working at a PC was statistically significantly ( $\chi^2 = 11.919$ ;  $df = 1$ ;  $p < 0.001$ ) bigger than the share of respondents with a high level. Similarly, in the case of assessing the position of the lower extremities, the share of the respondents (85.6%) with low or medium location of the lower extremities when working with a PC was statistically significantly ( $\chi^2 = 19.703$ ;  $df = 1$ ;  $p < 0.001$ ) bigger, and the share of the respondents with a low or medium level of the position of the upper extremities did not differ statistically significantly from the high level ( $\chi^2 = 0.676$ ;  $df = 1$ ;  $p = 0.411$ ).

The comparative analysis of adverse factors has shown that their impact on the posture of esportsmen and master's degree students of physical education and sports in the specialty "Esports" is statistically significantly different depending on the factor (Table 4). For example, as it can be seen from the table, the reduced position of the lower extremities and torso, lack of active breaks during long work with a PC, lack of awareness in preventing posture disorders while working with a PC, and neglect of the working posture of a PC user had the most negative impact on the posture of the respondents (Table 2).

**Table 2.** Comparative analysis of factors that negatively affect the posture of the respondents

Factor N	Multiple Comparisons p values (2-tailed); Kruskal-Wallis test: $H(9, n = 370) = 60.31$ ; $p < 0.001, n = 37$									
	1	2	3	4	5	6	7	8	9	10
1		1.00	1.00	1.00	0.63	1.00	1.00	1.00	1.00	1.00
2	1.00		0.28	1.00	0.08	1.00	0.49	1.00	1.00	1.00
3	1.00	0.28		0.08	1.00	1.00	1.00	<0.001*	1.00	<0.001*
4	1.00	1.00	0.08		0.02*	1.00	0.14	1.00	1.00	1.00
5	0.63	0.08	1.00	0.02*		1.00	1.00	0.00	1.00	<0.001*
6	1.00	1.00	1.00	1.00	1.00		1.00	0.12	1.00	0.04
7	1.00	0.49	1.00	0.14	1.00	1.00		0.01*	1.00	<0.001*
8	1.00	1.00	0.00	1.00	<0.001*	0.12	0.01*		1.00	1.00
9	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.63
10	1.00	1.00	0.00	1.00	0.00	0.04*	<0.001*	1.00	0.63	

Note: \* – statistically significant difference between the factors has been proven ( $p < 0.05$ ).

The factor analysis of the survey results has identified three factors that influence the posture condition of esportsmen and master's degree students of physical education and sports in the specialty "Esports". General factor 1, whose share of variance is 30.2%, can be called "Non-compliance with the ergonomically optimal posture of a PC user" and includes the factor "Lack of a specially designed workplace" taking into account ergonomic requirements ( $r = 0.83$ ).

This indicator directly correlates with assessments of the location of the lower ( $r = 0.75$ ) and upper ( $r = 0.71$ ) extremities when working with a PC. That is, the lack of a specially designed workplace causes a decrease in the level of the biogeometric profile of a PC user and the deviation of the position of the upper and lower extremities from the ergonomically optimal one.

The second factor “Unsatisfactory condition of the musculoskeletal system of an esportsman” with a load of 18.6% includes the presence of posture disorders or spine diseases ( $r = 0.93$ ) and reduced development of major muscle groups involved in maintaining the appropriate posture ( $r = 0.91$ ). Thus, congenital or acquired spine and posture disorders, and low levels of development of the main muscle groups of the body involved in maintaining the optimal posture increase the negative impact of esports on the posture of gamers.

The last factor “Lack of measures to neutralize the negative impact of esports” with an indicator of 17.4% includes the lack of control over the working posture of a PC user ( $r = 0.79$ ) and failure to take active breaks during long work with a PC ( $r = 0.71$ ). It can be argued that the lack of control over the working posture of a PC user by esportsmen and their failure to take active breaks has an adverse effect on their posture.

## Discussion

Against the background of the growing popularity of esports and the involvement of a significant proportion of modern adolescents and young people in esports, the study of risk factors for posture of esportsmen and master’s degree students of physical education and sports in the specialty “Esports” is extremely relevant.

The scientific and methodological literature has repeatedly raised the issues regarding the factors that affect the condition of a gamer. In particular, Kovaleva G. [18] considered the risk factors for reducing their gaming potential. Among the factors that negatively affect the professional status of esportsmen, the author singles out the prolonged stress of the visual analyzer, intense information, intellectual and psycho-emotional stress, prolonged static load on the musculoskeletal system, improper workplace organization, and failure to follow a healthy lifestyle, which includes eating disorders, lack of physical activity, etc. Analyzing the author’s reasoning, we assumed that these factors have a negative impact not only on the gaming potential of esportsmen, but also on their health, including the condition of the posture.

Similarly, scientists have accumulated significant knowledge about the negative consequences of the use of information technology in the educational process [9]. Experimental studies have confirmed that a prolonged stay in a static

position of a PC user in the context of computerization of education provokes a deterioration in the physical health of university students and lowering of their mental capacity level [4].

Our previous research determined that an ergonomically optimal working posture of a PC user is the position while working at a computer, which meets the hygienic requirements for the organization of the workplace and at which the spine and joints have the least load, and which scientifically substantiates the need to control the working posture of a PC user [13]. The previous research also defined the risk factors leading to certain manifestations of office syndrome in working age women under the influence of negative working environment [19, 20]. Esports activities are similar in nature to those of office workers and are associated with significant potential risks of posture disorders for esportsmen. At the same time, we assumed that in the case of students' distance learning, the posture of study participants may be negatively affected by such factors as lack of theoretical knowledge on the prevention of posture disorders when working with a PC, low bio-geometric profile of the working posture of a PC user, lack of a specially designed PC user workplace, and neglect of active breaks while working with a PC. Based on the identified factors, a questionnaire was developed, which, after testing and adjustment, contained 10 questions. It should be noted that the research process included checking the questionnaire for reliability and validity.

Summarizing the results, it should be noted that regarding the number of questions, including the duration of stay in the working position of a PC user up to 6 hours and breaks for mini-sets of exercises when working with a computer, amateurs statistically significantly ( $p < 0.05$ ) differ from gamers and professionals. Such results give grounds to conduct further research taking into account the level of sportsmanship and achievements of esportsmen and master's degree students of physical education and sports in the specialty "Esports".

The research has revealed that according to the level of theoretical knowledge, control of the working posture of a PC user, measures taken to maintain posture when working with a PC, statistically significant ( $p > 0.05$ ) differences between the study participants depending on their skills have not been established. Therefore, it is also advisable to organize joint activities aimed at expanding the knowledge of cyber industry professionals regarding posture issues and the formation of skills of maintaining the ergonomically optimal posture of a PC user.

Despite the fact that 78.4% of the study participants currently do not have posture disorders, and 70.3% do not feel discomfort after long work with a PC, we are convinced that in the absence of adequate health measures, in the future we can predict posture disorders in esportsmen and master's degree students of physical education and sports in the specialty "Esports".

According to the results of the study, the lower position of the lower extremities and torso, lack of active breaks during long work with a PC, and lack of awareness concerning the prevention of posture disorders while working with a PC have the most negative impact on the posture of the respondents.

The research has allowed identifying and investigating the risk factors for posture disorders of esportsmen and master's degree students of physical education and sports in the specialty "Esports". In the course of factor analysis of factors that negatively affect the posture condition of the respondents, the research identified three factors that explain 66.2% of the total variance. The first factor "Failure to comply with the ergonomically optimal posture of a PC user" (30.2%) includes the lack of a specially organized workplace, which leads to the deviation of the lower and upper extremities when working with a PC from an ergonomically optimal position. The second factor (18.6%) is related to the condition of the musculoskeletal system of esportsmen, and the third factor "Lack of measures to neutralize the negative impact of esports activities" explains 17.4% of the total variance.

## **Conclusions and perspectives of further research**

Along with the promotion of esports, there is a steady increase in the number of people involved in esports activities. Among the threats to the health of esportsmen, like in the case of office workers, attention should be paid to the risks of musculoskeletal diseases and musculoskeletal spine pain caused by inadequate static and dynamic loads on the spine, typical of PC users. This situation requires a study of risk factors for posture disorders of esportsmen and master's degree students of physical education and sports in the specialty "Esports".

The research has identified and analyzed factors that can lead to postural disorders in esportsmen and master's degree students of physical education and sports in the specialty "Esports". The adverse factors include lack of theoretical knowledge on the prevention of postural disorders when working with a PC, lack of control of the working position of a PC user, congenital or acquired curvature of the spine, insufficient development of major muscle groups, especially of the so-called muscular corset, insufficient motor activity, failure to take active breaks during long work with a PC, lack of a specially designed workplace, and a low level of a bio-geometric profile of a PC user.

The research has revealed that despite the long time that both esportsmen and master's degree students of physical education and sports in the specialty "Esports" spend in the working position of a PC user, 75.0% cannot clearly determine which position of a PC user is considered ergonomically optimal and what measures can reduce the negative impact of working with a PC. The re-

search has found out that 51.3% of the respondents do not always or never control the working posture of a PC user. At the same time, 29.7% are not engaged in health-improving motor activity, and 62.2% only sometimes or never take breaks to perform mini-sets of exercises while working with a PC. The research has shown that 16.2% of the study participants do not have a specially designed workplace of a PC user, 29.7% have a reduced assessment of the torso position, 8.1% of the upper extremities position and 24.3% of the lower extremities position.

Currently, 78.4% of the respondents do not have postural disorders, and 70.3% do not feel discomfort after prolonged work with a PC, but with the trend towards neglecting the rules of safe behaviour when working with a PC, we can predict in the future an increased risk of postural disorders among esportsmen and master's degree students of physical education and sports in the specialty "Esports".

Within the research, the factor analysis of the factors that negatively affect the posture of esportsmen and master's degree students of physical education and sports in the specialty "Esports" has been conducted. A three-factor model, which explains 66.2% of the total variance, has been developed. The first general factor "Failure to comply with the ergonomically optimal posture of a PC user" (30.2%) includes the lack of a specially designed workplace, which leads to the deviation of the lower and upper extremities when working with a PC from an ergonomically optimal position. The second factor (18.6%) is related to the condition of the musculoskeletal system of esportsmen, and the third factor "Lack of measures to neutralize the negative impact of esports activities" explains 17.4% of the total variance.

There is an urgent need to create a database and gather information on the impact of esports on the health of esportsmen, including their posture. To obtain comprehensive information on the peculiarities of the static and dynamic load on the musculoskeletal system of esportsmen and master's degree students of physical education and sports in the specialty "Esports" is the task of further research in this area.

The results of the research have proven that against the background of prolonged daily stay of the respondents in the working position of a PC user, esportsmen and master's degree students of physical education and sports in the specialty "Esports" do not pay enough attention to the posture issues. Therefore, it is necessary to develop and implement health-preserving measures to prevent postural disorders and diseases of the musculoskeletal system in esportsmen and master's degree students of physical education and sports in the specialty "Esports".

## Appendix

**Table A1.** The value of Cronbach's alpha reliability criterion for the questions of the questionnaire ( $n = 37$ )

N	Questions	$\alpha = 0.73$ ; $\alpha(st) = 0.75$
1	Do you control the working posture of a PC user?	0.77
2	Do you know which PC user posture is ergonomically optimal, what are the posture risks for esportsmen and how to eliminate these risks?	0.71
3	Do you regularly engage in health-improving motor activity?	0.69
4	Do you take active breaks during long work with a PC?	0.68
5	Do you have inborn or acquired spine or posture disorders?	0.73
6	Do you feel discomfort in the muscles involved in maintaining posture after long work with a PC?	0.73
7	Do you have a specially designed workplace of a PC user?	0.66
8	Assess the location of your torso at the moment (1 – sharp deviation, 2 – moderate deviation; 3 – working posture corresponds to the ergonomically optimal pose of a PC user).	0.70
9	Assess the location of your upper extremities at the moment.	0.70
10	Assess the location of your lower extremities at the moment.	0.71

Note:  $\alpha$  – Cronbach's alpha coefficient;  $\alpha(st)$  – standardized Cronbach's alpha coefficient.

**Table A2.** Factor analysis of negative factors (the method of rotation of the main components, Varimax normalized,  $n = 37$ )

Factor N	Negative factor	Factors		
		Factor 1	Factor 2	Factor 3
1	Lack of control of the working posture of a PC user	-0.19	-0.11	0.79*
2	Lack of theoretical knowledge on the prevention of postural disorders when working with a PC	0.22	0.10	0.72
3	Lack of regular health-improving motor activity	0.69	0.26	0.14
4	Lack of active breaks during long work with a PC	0.48	-0.02	0.71*
5	Posture disorders or spine diseases	-0.00	0.93*	-0.05
6	Decreased level of development of the main muscle groups involved in maintaining posture	0.14	0.91*	0.04
7	Lack of a specially designed workplace	0.83*	0.10	0.25
8	Deviation (from the ergonomically optimal one) of the torso position when working with a PC	0.67	0.17	-0.02
9	Deviation (from the ergonomically optimal one) of the upper extremities position when working with a PC	0.71*	0.00	0.06
10	Deviation (from the ergonomically optimal one) of the lower extremities position when working with a PC	0.75*	-0.20	0.02
Expl. Var		3.020	1.858	1.740
Prp. Totl		0.302	0.186	0.174

Note: \* – the significance of the correlation coefficient has been statistically proven ( $p < 0.05$ ).



**Table A3.** Intercorrelation of questions of the questionnaire when checking the construct validity on internal coherence (Kendalltau coefficients, n = 37)

Factor N	1	2	3	4	5	6	7	8	9	10
1	1.00	0.27	-0.01	<b>0.35*</b>	-0.02	-0.08	-0.00	-0.09	0.07	0.02
2	0.27	1.00	0.23	0.49	0.12	0.09	0.32	0.24	0.06	0.22
3	-0.01	0.23	1.00	0.39*	0.22	0.24	0.54*	0.43*	0.28	0.30
4	0.35*	0.49*	0.39*	1.00	-0.00	0.11	0.58*	0.24	0.34*	0.29
5	-0.02	0.12	0.22	-0.00	1.00	0.80*	0.13	0.13	0.07	-0.09
6	-0.08	0.09	0.24	0.11	0.80*	1.00	0.19	0.18	0.15	-0.01
7	-0.00	0.32	0.54*	0.58*	0.13	0.19	1.00	0.45*	0.49*	0.48*
8	-0.09	0.24	0.43*	0.24	0.13	0.18	0.45*	1.00	0.22	0.44*
9	0.07	0.06	0.28	0.34*	0.07	0.15	0.49*	0.22	1.00	0.51*
10	0.02	0.22	0.30	0.29	-0.09	-0.01	0.48*	0.44*	0.51*	1.00

Note: \* – the significance of the correlation coefficient has been statistically proven ( $p < 0.05$ ).

#### STATEMENT OF ETHICS

This study was conducted in accordance with the World Medical Association Declaration of Helsinki. The study protocol was reviewed and approved by the Commission on Biomedical Ethics at the National University of Physical Education and Sports of Ukraine, № 57, Kyiv, Ukraine. All participants provided written informed consent to participate in this study

#### DECLARATION OF CONFLICTING INTERESTS

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**CZĘŚĆ IV**  
TURYSTYKA I REKREACJA







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## Some aspects of tourism and transport in the COVID-19 pandemic time

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### Wybrane problemy turystyki i transportu w czasie pandemii COVID-19

#### Streszczenie

Artykuł ma na celu opisanie związku między turystyką a transportem widzianym w perspektywie pandemii COVID-19. Opiera się na krytycznym przeglądzie i analizie różnych dostępnych obecnie materiałów (metoda SDA), takich jak: literatura, dane statystyczne oraz raporty UNWTO, UNWHO, regulacje prawne i działania podejmowane przez rządy i instytucje międzynarodowe (opublikowane w latach 2020–2021). Tak zgromadzony materiał (dane wtórne jakościowe i ilościowe) umożliwił przegląd najważniejszych zagadnień, które wpłynęły na turystykę w czasie kryzysu pandemii. Wybuch pandemii spowodował wprowadzenie szeregu ograniczeń sanitarnych, mających na celu kontrolę rozprzestrzeniania się wirusa. W przypadku destynacji turystycznych

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silnie uzależnionych od dochodów związanych z turystyką zablokowanie i zawieszenie transportu stały się poważnym problemem i kryzysem gospodarczym. Podwójna rola transportu i turystyki w kryzysie COVID-19 jest bardzo szczególna: transport przyczynia się do rozprzestrzeniania wirusa na całym świecie, a jednocześnie jest sektorem gospodarki najbardziej dotkniętym negatywnymi skutkami tej pandemii. Zdajemy sobie sprawę, że ze względu na obiektywne ograniczenia niniejsza praca nie może zapewnić kompleksowego i głębszego wglądu w kwestie związane z turystyką, transportem i kryzysem COVID-19. Jednakże, ponieważ transport turystyczny w perspektywie pandemii jest wciąż rzadko poruszany tematem w tekstach akademickich, mamy nadzieję, że niniejszy artykuł może okazać się przydatny jako prezentujący problematykę turystyki w tej nowej perspektywie. Artykuł kończy się refleksją i dyskusją na temat zrównoważonego rozwoju sektora transportu w okresie po pandemii, kiedy ruch turystyczny może się ożywić.

**Słowa kluczowe:** turystyka, transport, pandemia COVID-19, ożywienie turystyki.

## Abstract

This paper is aimed to describe the association between tourism and transport, seen in the perspective of the COVID-19 pandemic. The dual role of transport and tourism in the pandemic crisis is very special: it spreads the virus around the world and at the same time is mostly impacted by the pandemic negative consequences. The research was based mainly on the critical review and analysis of the secondary data (SDA method), such available resources as literature, statistic data and reports, actions taken by governments, international institutions and law regulations (published in 2020-2021). This approach allowed deep insight and overview of the most important issues of transport that have influenced tourism in the pandemic crisis. The final result of the study showed that for destinations highly dependent upon tourism-related revenue, the lockdown and transport suspension became a great concern and resulted in economy crisis. We acknowledge that due to the objective limitations, this paper cannot provide a comprehensive insight in tourism, transport and crisis issues. However, as this topic is a rarely discussed theme in academic texts, we hope that this paper could be found useful as it explores approaches to tourism from this new perspective.

The paper ends with some reflections on sustainable development of the transport sector in the post-pandemic time, when tourism is expected to recover.

**Keywords:** tourism, transport, sustainability, COVID-19 pandemic, tourism recovery.

## Introduction

Transport could be defined as the movement of humans, animals or goods from location 'A' to location 'B'. Means of transport include riding animals and vehicles (wagons, automobiles, bicycles, buses, trains, trucks, helicopters, watercrafts such as ships, ferries, boats and sails, as well as space crafts and aircrafts). The very special means of transport are human-powered devices using human muscle-power (cycling, walking, running, swimming, kayaking, rowing) and animal-powered transport (horse, elephant and camel riding, coaches, sledges) – considered in the 21<sup>st</sup> century rather as a tourist attraction, pass time and physical exercises than means of transport.

Transport requires infrastructure such as roads, railways, airways, waterways, canals and terminals for passengers (airports, railway stations, bus stations, ferry terminals, yacht ports and marinas, seaports) [6, 9, 11].

Transport is one of tourism pillars, as essential as lodging and gastronomy: without transport tourism development is impossible [6, 11]. There are several modes of transport (air, land and water-based), however in tourism-fuelled modes of transport the following dominate: motorized transport for domestic destinations and aircraft for international travels.

The transport – tourism relationship can be seen from two perspectives:

- a) Travel to and from a destination, which could incorporate one or more modes of transport (air, land-based transport, water transport), and
- b) Recreational travel, within a region of destination, which could incorporate for example heritage transport (historic railway), cycling, horse riding, camel riding, elephant riding, sailing, cruising, etc., making transport (travelling) visitors' experience and attraction.

The aviation sector is one of the most important transport branches for international tourism development, as in most countries tourists arrive by plane (almost 80% of visitors in France, Spain, Italy, Egypt, Greece, Turkey). Flights at the beginning of the 21<sup>st</sup> century became more available, also for low-budget middle class members [18]. In 2019, before the pandemic crisis, there were as many as 1200 major international airports worldwide, serving 4 billion passengers per year. Before 2019, about 5000 airlines operated, having around 40 million flights annually [10, 18].

The Asian region was believed to be the most progressive, with a significant increase in the number of domestic passengers (mainly in China) [10]. The aviation sector of transport is regarded as the safest form of travel [23] [Table 1].

**Table 1.** Comparison of safety level of various means of transport (measured by a number of fatalities per journey, per hours or per kilometres of travel)

	Means of transport	Journeys	Hours	Kilometres
1	Bus	4.3	11.1	0.4
2	Rail	20	30	0.6
3	Air	117	30.8	0.05
4	Ship	90	50	2.6
5	Van	20	60	1.2
6	Car	40	130	3.1
7	Walking	40	220	54
8	Bicycle	170	550	45
9	Motorcycle	1640	4840	109

Source: Department of the Environment, Transport and the Regions (DETER), 2000 [archive.official-documents.co.uk, 2000].

Unfortunately, dense air traffic causes several problems to the environment sustainability.<sup>1</sup> Before the outbreak of the pandemic, tourists used to take long-haul flights with too little regard for potential negative side effects [9]. In the last decade, most of the scholarly disputes on tourism transport were focused on climate change and how tourism and transport threaten the environment and endanger sustainability (climate change, noise, air pollution, land take), as it is mainly based on fossil fuels and specific infrastructure. These issues were also considered in the context of the UN Paris Climate Agreement (2015 Chart) and the UN Sustainable Development Goals (1992 Chart).<sup>2</sup>

Therefore, in the context of sustainable tourism development, consequently the desirable transport development scenario was a theme of academic disputes and scientific researches, undertaken to deal with a demand for reducing carbon emissions and finding some satisfactory strategies of less destructive forms of transport [5, 6, 8, 11, 12].

It is to be underlined that above all the question of long-haul international trips was highlighted as in the last decade in Europe alone these represented almost a doubling of the volume of travels. Studies undertaken by many academic institutions and scholars, e.g. by Peeters [12], Page [11], Lumsdon [8], Hall [6] and many others, have provoked a wider debate on tourism-transport relationship and recommended less destructive and more environment friendly modes of transport.

Finally, broader discussions on tourism and transport were launched and resulted in several projects such as 'The Green Key Initiative', i.e. eco-label awards to hospitality establishments [5, 8, 17].<sup>3</sup>

In March 2020, the UN WHO declared the outbreak of the COVID-19 pandemic. The governments across the world restricted movements and closed down numerous hospitality establishments [18,19]. The outbreak of the pandemic placed transport at the forefront of many governments' sanitary restriction agendas in aim to control the spreading of the virus. Transport, the growing hypermobility of societies worldwide (the global increase in the number of passengers in the last decade was 137%) and the quick spread of the disease

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<sup>1</sup> In 2020, the outbreak of the COVID-19 heavily affected air transport, as a significant number of flights were cancelled to prevent the highly contagious virus from spreading. The damage to the air transport industry resulted in a large number of airline companies gone bankrupt [10].

<sup>2</sup> The 2015 UN Climate Agreement conference in Paris (COP) adopted the 'Paris Agreement', a new global accord on dealing with climate change. The Agreement is a part of UN Framework Convention on Climate Change (UNFCCC), established in 1992 to prevent dangerous climate change.

<sup>3</sup> The 'Green Key Initiative' certificates are eco-labels, which could be awarded to hotels, restaurants and local tourist attractions (as heritage railways), establishments meeting a set of high environment standards [17].

(human – to – human transmission) – these correlations are very well scientifically proved [9].

The negative consequences of mobility limits, lockdown and sanitary restrictions were immediate and caused an economic crisis (measured by the drop of revenue) in regions highly dependent on tourism [14].

## **Research methods and material**

This paper is aimed to explore and describe the association between tourism and transport seen from the perspective of the COVID-19 pandemic.

The research method was planned and developed on the ground of measurements of descriptive study ('desk research') needs. The research study was based mainly on the SDA method and tools (Secondary Data Analysis), meaning a critical review and analysis of various available resources (secondary data, published resources) such as literature, scientific articles of other researchers, law regulations, statistic data, UNWTO and UNWHO reports, as well as actions taken by governments and international institutions to control and limit the spreading of the virus (qualitative and quantitative data). The collected materials were published mainly in 2020–2021, presenting the main outcomes of surveys conducted by researchers from various prestigious scientific institutions of international recognition. The data analysis methods depended on the type of collected material. For quantitative data the statistical analysis methods were used to compare the relations between variables, averages and correlations. For qualitative data mainly thematic analysis was used to interpret patterns and meanings of collected data, given that a given researcher's judgement was to be objective and their choice of assumptions carefully made.

This approach could allow for an objective insight and overview of the most important issues that have influenced tourism and transport in the pandemic crisis. However, what should be noticed is the fact that it had several shortages as the study was based on a limited collection of research material. In particular, the presented paper covers the results of studies on the following issues:

- the meaning of the transport sector for the tourism industry,
- consequences of pandemic restrictions on transport and tourism,
- travellers and transport staff infection risk,
- governmental and international actions to reduce pandemic risk,
- the role of sanitary regime principles introduced in the transport sector in reducing the virus transmission,
- possible recovery of the tourism industry and changes expected in the post-pandemic time.

To present the main outcomes, this paper is organized as follows:

- a) Introduction that shows the meaning of transport in tourism, transport sustainability, the pre-pandemic and current situation in the tourism transport sector,
- b) Research materials and methods,
- c) The Polish government and international actions (UN WTO, UN WHO) to mitigate the negative impacts of the pandemic,
- d) Reflection and discussion on possible recovery trajectories of the transport sector in tourism and changes expected in the post-pandemic time,
- e) Summary and conclusions.

This paper ends with some reflections and discussion on sustainable development of the transport sector in the post-pandemic time, when the tourism industry is expected to recover.

## **Tourism and transport: COVID-19 consequences**

At the end of September 2021, the COVID-19 virus had already infected about 150 million of people around the world and caused more than 3,000,000 of deaths globally [19]. In each of the countries its government (and local authorities) had a different approach to deal with the pandemic crisis. While some countries introduced strict lockdown measures (China, South Korea), others did not have such a clear strategy for restrictions in order to mitigate the consequences of the economic crisis and maintain their financial stability (Brazil, US) [14]. In 2020 and 2021, most governments of EU countries introduced differentiated lockdown measures that even varied regionally (Germany, Italy, Poland, Scandinavian countries), in response to the pandemic situation.

In EU countries, a significant reduction of COVID-19 cases in the summer months of 2020 and 2021, allowed for limiting the restrictions and re-opening of hospitality establishments. This strengthened the confidence among tourists, and a periodical recovery of tourism (significantly, mainly domestic tourism) was possible.

In Poland at present (November 2021), despite the vaccination campaigns, we faced the fourth COVID-19 wave, and some variants of the virus spread out. Again, the pandemic has brought significant changes to the way we live, work and travel.

Recent changes of preferences in passenger transport developed as a response to the pandemic crisis are visible in everyday routines. A number of studies were conducted to understand changes in people's approach to transport during the COVID-19 pandemic. For example, the researchers found out that in Europe, in 2020 and 2021 people felt safer walking, using a bike, a moto bike or

using their own car rather than public transport [14].<sup>4</sup> It is to be highlighted that cycling and walking are compatible with the physical distance rules and are sanitary safe. Moreover, active mobility like walking or cycling (at least 30 minutes per day), is a good change in transport patterns as it helps to reduce the risk of long-term conditions such as coronary heart disease, stroke, cancer, obesity (contributing to a lower Body Mass Index) and diabetes. It can reduce a threat of the cardiovascular disease by around 30%, and all-cause mortality by 20% [1, 7]. Hopefully these forms of physical activity will be still carried out after the pandemic for as long as possible, being part of healthy lifestyle activities, strongly recommended by UN WHO [19].

It is to be noted that any transport pattern change requires several new investments in urban and sub-urban infrastructure, along with persuasion and education (as free cycle training courses to improve skills and confidence) and free bicycle use service. Local authorities, schools, health and sports institutions (cycling clubs) have an important role to play to develop these opportunities [1].

In Poland, as the researches found out, people who reduced the use of public transport, in 40% cases pointed to the fear of being infected as their main motive [13], believing that airplanes and buses are the most dangerous means of transport, followed by subway, trams and trains.<sup>5</sup>

Not only in Poland, but globally, one can notice a large shift from public transport to walking, cycling, moto cycling and using private cars [14]. In most surveys the two reasons are highlighted as leading motives of low confidence in public transport:

- a) risk to be infected,
- b) mandatory facemask wearing and physical distancing, reluctance to follow mandatory measures (the latter described by psychologists as a 'corona fatigue' symptom) [2, 7].

However, in Poland due to the so-called 'corona fatigue' symptom (people are becoming more and more frustrated, often reject obeying restrictions and do not follow regulations), the most recent lock-down measures (November 2021) were much lighter (less strict) than during the previous COVID-19 waves. It was a consequence of an increasing and strong pressure of different business

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<sup>4</sup> In UK, confidence in public transport dropped dramatically: a survey shows it is only about 40% (in 2019 – 69%), in China – even less – only 20% (in 2019 – 73%), as people consider public transport (including taxi services) to be associated with high infection risk [14]

<sup>5</sup> In Poland, the COVID-19 pandemic has a visible impact on all modes of transport, railways included. According to the Office of Rail Transport in Poland (2021) report "Impact of the COVID-19 epidemic on railway market in Poland and Europe," in 2019 rail operators carried about 335 million passengers, while in 2020 there was a decline on an unprecedented scale as only 209.2 million passengers were transported. In 2021, although several restrictions were alleviated and the railway system operated as usual, passengers still remained reluctant to travel due to fear of infection [22].

and industry sectors (including hospitality) to relax lockdown measures.<sup>6</sup> We can observe this change and also differences in safety measures globally: for example, in some countries wearing a face mask on-board public transport is obligatory, while in others it is only recommended; in some countries the social distance is expected to be 1.5 metres (Poland), while in others 1.8 metres (US) or even 2.0 metres (UK) – according to the state rules introduced in order to reduce virus transmission. In consequence of national sanitary regulations, the capacity of public transport vehicles might drop by even 60%–90%. In UK, to secure proper distancing measures (2 metres), only 15 passengers could enter a city bus and only 30 passengers could travel in a rail wagon – it means that only 10% of a usual number of passengers could be transported.

As K. Gkiotsalitis [4] underlines, dramatic changes in travelling rules introduced in order to prevent the virus from spreading posed significant challenges to the public sector. Moreover, these changes, many of them occurring on the basis of ad-hock issued procedures, are the source of uncertainty due to the limited knowledge on the subject. For example, the recommended physical distance between individuals to secure public safety and minimize the risk of infection is still a contested topic (empirical evidence is inconclusive) and that explains why governments developed different distancing recommendations [4].

Undeniably, further surveys are crucial and they should focus on epidemiological issues and safety measures to limit the virus transmission, e.g. transport capacity limitations, as well as on passengers' behavioural responses to travel regulations (i.e. 'corona fatigue' symptoms consequences) [4]. As there are many countries where vaccines are not available and others in which large population groups refuse to get vaccinated (in Poland about 46% of population), probably the global pandemic problem will not be mastered in the near future [18, 19].

Since 2020 social interaction and tourist travels have been reduced significantly, however many essential activities require mobility. There are various government and state regulations issued to secure travelling in health safety. For example, so the called 'PASS' approach, developed and recommended by UN WHO and UN WTO [18, 19]:

"P": prepare – protect – provide; prepare public transport (rigid cleaning of vehicles, ventilation, disinfection, information, installation of dispensaries for

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<sup>6</sup> It is underlined by researchers from various countries, e.g. Brooks [12], Dam [2], Fountain [3], Laverty [7] that the pandemic crisis has affected people's mental well-being. Especially after a lockdown or quarantine individuals are more prone to develop a spectrum of mental illness whose symptoms are mood swings, confusion, irritability, numbness, stress disorders, sadness, anger, anxiety, grief, depression, insomnia, accompanied by boredom, frustration, exhaustion, social separation (loneliness), helplessness, domestic violence, stigma, fear of death (thanatophobia) and fear of a financial crisis.



hand sanitizing),<sup>7</sup> protect service staff (face masks, vaccination, education, temperature checks), protect passengers (face masks, physical distancing, body temperature checks, COVID-19 passports check), provide sanitary safe terminals (disinfection, ventilation, physical distance, protective shields for staff), provide guidance and information, financial support and anti-virus services;

“A”: avoid – adjust; avoid non-scientific and demagogic policy decisions, crowded platforms, vehicles and terminals, unnecessary and non-urgent travels; adjust policy making process, service operations, activity – travel schedules, logistic supply chains to minimize transport;

“S”: shift – share; shared mobility (car and bicycle sharing), shared information shift from hypermobile to sustainable transport (slow transport, cycling or walking);

“S”: substitute – stop; substitution of transport activity by virtual communication, substitution of face to face procedures by online procedures to minimize transport, stop of services (‘stay at home policy’, stop air-condition systems in vehicles if only possible).<sup>8</sup>

Clearly, the COVID-19 crisis has reduced travels, regardless of means of public transport. At present, it remains unknown whether the pandemic will have long-lasting effects on tourism transport. Past experiences have taught us that large-scale crises (e.g. the 9/11 terror attacks) did not fundamentally change travel patterns, but initiated a series of innovations and security changes. Nevertheless, as K. Gkiotsalities underlines [4], we cannot be sure if the post-pandemic ‘new normal’ is going to be the same as pre-pandemic ‘normal’.<sup>9</sup>

On the other hand, despite its serious negative economic and social impact (also on tourism), the COVID-19 pandemic has generated an improving environmental effect around the world. Within a year, the emission of CO<sub>2</sub> was reduced worldwide by 6.5% in 2020, in comparison to 2019 [10, 14, 15]. We mostly owe

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<sup>7</sup> Rigid cleaning of vehicle interior should include: handrails, ticket machines, smart-card machines, doors, handles, windows, panels, floors, seats, steps, ceiling, windows, in case of long distance crafts also tables and lavatories – all areas that can host infectious viruses [9].

<sup>8</sup> Scholars indicated an increased risk of infection for passengers travelling too close to the infected passenger (prolonged exposure) and in the vehicle with poorly operating (too weak filters) air recirculation system (for example, Brooks, Nizetic) [1, 10]. Moreover, researchers highlighted the importance of cleaning and disinfecting vehicle interior (to remove viruses on surfaces) with the use of chemicals, which are medically accepted and recommended by sanitary inspectorates. Generally, it is agreed that the most effective safety measures to limit the level of virus transmission are: sanitation (cleaning surfaces, where the virus can live even for days on hard surface), ventilation and passengers’ discipline (face mask wearing, hand disinfection, physical distancing of about 20 metres, hygiene) [18, 19].

<sup>9</sup> Possibly, as many scholars underlined, designing public transport services to avoid crowded conditions is believed to be a crucial element in the future policy developed with the aim of limiting the spread of the virus (for example, responding to the capacity limits ratio) [4].

this improvement to the drastically reduced air mobility. Tourists were either forbidden to travel (the borders of their destination country were closed) or discouraged to travel due to severe formalities and sanitary restrictions in the destination countries (e.g. obligatory quarantine, mandatory COVID-19 vaccination passports or/and COVID-19 tests, etc.). Overall, in 2020 and in 2021, as international travels were mostly limited to business travels, tourist mobility was significantly reduced [10].<sup>10</sup>

## Conclusion and discussion

The year 2021 was still a year of restrictions in travelling and sadly we cannot predict transport changes neither in the near future nor in the long-term perspective. Possibly, the pandemic will not vanish abruptly, new COVID-19 virus variants might occur, and precaution measures will be needed for some more time [18, 19]. Temporary relief of the COVID-19 pandemic and fewer registered cases (summer months of 2020 and 2021) are not a basis for over-optimism and certainly should not encourage people to return to their preferred lifestyles and joy of long-haul travelling in the next year.

It is not possible to plan coming winter or summer holidays abroad, as the pandemic situation constantly evolves and governments have different approaches on how to deal with tourists. In November 2021, still there were no globally unified and worldwide-accepted directives for safety measures and procedures. For example, in the EU, the 'Schengen Agreement' guarantees free movement of people within the EU countries, but during the COVID-19 pandemic the member countries had different regulations on how to treat tourists at their border. Undeniably, the international coordination of travel procedures such as arriving passengers' quarantine requirements is essential to formulate standard criteria, to make travelling more predictive and to minimize the infection risk (and to achieve this, undeniably, the cross-section joint efforts are required) [15].

Nevertheless, in a few years' time, as it is expected on the basis of two facts, i.e. world-wide herd immunity and mass vaccination, tourism and travels might return to the pre-pandemic growth path. However, as it should be underlined, it might be difficult to re-gain people's confidence in public transport. Possibly, the transport sanitary restrictions including the reduction of seat occupancy (25%–50%), wearing face masks, physical distancing, hygiene rules might be mandatory also in the post-pandemic time to help regaining tourists' trust in public transport safety.

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<sup>10</sup> In April 2020, in Europe, as many as 157 964 flights were cancelled (it is about of 90% of usually operating flights) [10].

The COVID-19 virus belongs to the category of coronaviruses, which are highly contagious respiratory pathogens and safety protocols aiming at health protection in various means of transport are crucial. Possibly more changes and innovations in public transport will be applied to respond to the pandemic challenges, however, now there is a severe lack of knowledge regarding public transport models in the future [4, 15]. For example, a possible future scenario is that individuals and companies will adjust their plans to more sustainable trajectories, with more concern to climate changes (in accordance to the Paris Climate Agreement).<sup>11</sup> As some of the researchers predicted, for example, prof. J. Fountain from New Zealand, this scenario may also include the willingness to support local economies (domestic tourism and rural locations rather than international destinations and luxury resorts)[3], which might mean the turning point in our approach to tourism development and directions concerning re-organization of tourism policies. This may include the following aspects:

- a) Environmental concerns: reducing hypermobility, minimizing long-haul transport, reducing air transport and long-haul coach-bus travels, relying more on railway transport and 'slow mobility',
- b) Re-organizing tourism: domestic destinations rather than international ones, 'active mobility' with the use of bicycle, horse riding, sailing, kayaking or walking within a destination area, virtual conferences (re-organizing business tourism).<sup>12</sup>

The positive outcome of re-thinking transport in tourism, development of trajectories geared towards 'slow mobility' and limited hypermobility is health: active mobility (walking, cycling), reduction of pollution, environment improvement, possibly even fewer road traffic injuries. It is true that this scenario may lead to slower recovery of transport and tourism in the short-term, yet, hopefully in the long-term perspective, the sustainability and the mitigation of climate change shall increase economic stability and resilience of tourism.

Moreover, it shall follow directives of the European Commission 'Green Deal Pact', which includes a path towards a carbon-free economy to be achieved until 2050, connected with the 'Strategy for smart and sustainable mobility'.<sup>13</sup> Possi-

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<sup>11</sup> The Paris Climate Agreement (Accord de Paris) is an international agreement on climate change adopted in 2015. It covers climate change, mitigation, adaptation, and finance. The Agreement was negotiated by 196 parties at the 2015 United Nations Climate Change Conference, Paris [16].

<sup>12</sup> After the COVID-19 pandemic outbreak many companies and many scholars learnt that it is possible to reduce travels and instead use applications allowing to organize online meetings [18, 19].

<sup>13</sup> The European Green Deal is a strategy developed in response to climate change and environmental degradation, understood as an existential threat to Europe and the world. To overcome these challenges the European Green Deal will transform the EU into a modern, resource-efficient economy, ensuring: a) the greenhouse gases reduction by 2050, b) economic growth decoupled from resource use, no person and no place left behind [21].

bly, long-term impacts of the COVID-19 pandemic on transport and tourism will depend on passenger preferences and confidence in public transport. More thoughtful behaviour and reflection might bring sustainability and resilience in the long term, supporting the 'zero carbon option'.

Unfortunately, most likely we will not be free from the COVID-19 virus and its changing versions (i.e. Delta, Omicron, BA.2, etc.) in the near future, but there are ways not to allow this pandemic to control our lives totally. However, as it should be underlined, considering various uncertainties and un-knows about the virus, its transmission, its impact (especially long-term consequences), it is critical to continue survey on various aspects of the COVID-19 and their implications for tourism.

In our opinion, based on the critical analysis and interpretation of collected secondary data, further research might include a variety of perspectives:

- research on smart technologies in transport,
- research of new tourist forms,
- research on tourist preferences in the 'new normal',
- research on sustainable lifestyle and 'slow tourism', 'slow mobility', 'active mobility' (active travelling in the neighbourhood),
- research on new tourist destinations.

We acknowledge that due to objective limitations this paper cannot provide a comprehensive and more profound analysis of tourism, transport and COVID-19 crisis issues.

However, as tourism transport from the perspective of the pandemic is still chosen rather rarely as a theme in academic texts, we hope that this paper could be found useful, exploring approaches to tourism from this new and interesting angle.

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#### **STATEMENT OF ETHICS**

This study was conducted in accordance with the World Medical Association Declaration of Helsinki. The study was conducted at Józef Pilsudski University of Physical Education in Warsaw (Poland). However the study character did not require the approval from the part of the university ethic committee and was conducted on the base of the secondary data (there were no other participants than authors involved).

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### Netography

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## Position of Spain in the global tourism market: its competitive capacity and priorities

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### Miejsce Hiszpanii na światowym rynku turystycznym: konkurencyjność i priorytety

#### Streszczenie

Artykuł poświęcony jest badaniu miejsca Hiszpanii na światowym rynku turystycznym. Określona jest specjalizacja gospodarki rekreacyjnej kraju. Scharakteryzowano potencjał turystyczny Hiszpanii. Równie dużo uwagi poświęca się badaniom naturalnych zasobów rekreacyjnych oraz

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dziedzictwa historycznego i kulturowego. Przedstawiono rolę infrastruktury turystycznej w rozwoju sektora turystycznego kraju. Ponadto w pracy przedstawiono zagospodarowanie rekreacyjne na terenie Hiszpanii. Analizie poddano intensywność, dynamikę i geografie przepływów przyjazdowych i wyjazdowych, cechy turystyki krajowej, a także przychody z turystyki międzynarodowej oraz średnie koszty turystyki. Oprócz aktualnych danych śledzono dynamikę głównych wskaźników statystycznych turystyki międzynarodowej. Szacowany jest wpływ globalnej pandemii COVID-19 na branżę turystyczną badanego kraju. Artykuł opisuje główne problemy nieodłącznie związane z hiszpańską branżą turystyczną, w szczególności problemy gospodarcze, środowiskowe i społeczne. Jednocześnie określone są główne priorytety Hiszpanii na światowym rynku turystycznym.

Badanie zostało przeprowadzone na podstawie analizy raportów statystycznych i danych materiałowych UNWTO oraz Instytutu Statystyki Narodowej Hiszpanii, Alliance for Excellence in Tourism (tj. Exceltur). Narzędzia metodologiczne badania zawierają metody analityczne, statystyczne, porównawczo-geograficzne, matematyczne, a także metodami uogólniania i systematyzacji, etc.

**Słowa kluczowe:** światowy rynek turystyczny, Hiszpania, potencjał turystyczno-rekreacyjny, przemysł turystyczny.

## Abstract

The article is devoted to the study of Spain's place in the world tourism market and determines the specialization of the country's recreational economy. The tourist potential of Spain is characterized. Equal attention is paid to the research devoted to natural recreational resources as well as historical and cultural heritage sites. The role of tourist infrastructure in the development of the country's tourism sector is outlined. Besides, the paper presents recreational zoning of the territory of Spain. The intensity, dynamics and geography of incoming and outgoing flows, features of domestic tourism, as well as revenues from international tourism and average tourist costs are analyzed. In addition to current data, the dynamics of the main statistical indicators of international tourism are traced. The impact of the global pandemic COVID-19 on the tourism industry of the studied country is estimated. The article depicts the main problems inherent in the Spanish tourism industry, in particular, economic, environmental and social problems. Simultaneously, the main priorities of Spain in the world tourism market are defined.

The study was conducted on the basis of analysis of statistical reports and material data of UNWTO and the Institute of National Statistics of Spain, the Alliance for Excellence in Tourism, i.e. Exceltur. The methodological tools of the study involve analytical, statistical, comparative-geographical, mathematical methods, as well as methods of generalization and systematization, etc.

**Keywords:** world tourism market, Spain, tourist and recreational potential, tourism industry.

## Introduction

An the modern stage of development of international economic relations, globalization processes have encompassed all the spheres of the world economy, including the global market of tourism services. In fact, economies of all the countries of the world are currently characterized by the tendency towards the increase in the tourism industry contribution to both GDP structure and the pattern of consumption.



Globalization and regionalization are the integral components of the unified process of the global tourism development, which makes it a unique economic instrument able to form manufacturing systems of international character, as well as to preserve local significance [4].

The number of international tourist destinations tends to grow, having increased from 25 million people in 1950 to around 700 mln people in 2002, and the record number of 1.18 billion people in 2017 (UNWTO Tourism Highlights 2018). As it was prognosticated by the World Tourism Organization UNWTO, by 2020 the number of tourist trips should have reached 1.6 billion people, and the incomes from tourism and hospitality services should have increased from 445 billion USA dollars in 1998 to around 2 trillion USA dollars in 2020. Admittedly, the world pandemic of coronavirus (COVID-19) has badly affected further development of international tourism.

During recent years Spain, France and Germany have invariably been European and world leaders in the tourism sector. There has been an increase of interest in Spain as a tourist destination among European non-EU countries. Another significant segment is the tourist flow from the USA (2.4%); therefore some resorts focus on consumers from these countries [7, 12].

Spain has unique cultural heritage, which formed as a result of extended history. Seaside regions of the country are recreational zones of international importance. Due to extensive development of these regions, tourism has become one of the most significant profit shares of Spanish economy.

Spain specializes predominantly in mass beach tourism and is one of the main tourist centres of the world. The tourism market of Spain is mostly formed due to external demand and is oriented towards the reception of foreign tourists. Undoubtedly, such important factors as geographical proximity, favorable climate and relative affordability of the tourist product prioritize Spain as an international tourist destination, thus playing the main role for the countries of the European subcontinent. Nevertheless, it is visited by a big number of tourists from Japan, the USA and Canada despite the distance [2].

## Literature review

The vast array of scientific research into the issue of the world tourism market development was carried out by numerous national and foreign scientists, with the prominent works and publications of such Ukrainian authors as L. Hontarzhavska, Y. Zabaldina, R. Zablotska, V. Kyfiak, P. Masliak, O. Liubitseva, H. Mykhailichenko, S. Sokolenko, D. Stechenko, T. Tkachenko, N. Chornenka, etc., as well as foreign scholars such as R. Barton, M. Birzhakov, D. Bowen, R. Brymer, V. Kvartalnov, N. Reimers, Ch. Robinson, D. Holloway, etc.

The European recreational area as the world main tourist destination has been investigated rather well. Both theoretical and practical aspects of tourism development within the European Union are studied in the works of numerous Ukrainian (O. Liubitseva, F. Fomenko, S. Kuzyk, O. Beidyk, O. Topchiyev, I. Smal, Y. Dmytrevskiy, M. Malska, O. Korol) and foreign scientists (N. Papyrian, Y. Aliek-sieyeva, V. Voskresenskiy, A. Aleksandrova). Research on tourist recreational potential of Spain and the peculiarities of the country's tourism industry development can be found in the works by V. Stafiichuk, D. Tomashuk, T. Mykhalchuk, P. Podlepin, etc.

Taking into account the dynamic processes of the international tourism market trends, there arises acute necessity to investigate modern vectors of tourism market development in the country under consideration as the tourism industry is characterized by significant dynamism.

Thus, the object of our research is Spain as the leading tourist destination of the world. The main tasks of the study are to determine Spain's place in the world tourism market, as well as the impact of the world's COVID-19 pandemic on the country's tourism industry.

## Methods

Methodological tools of the study include analytical, statistical, mathematical, comparative-geographical methods, as well as other methods, in particular, generalization and systematization methods.

During the study, in order to determine the number of tourist arrivals by destinations, the dynamics of the distribution of tourists by the prevailing modes of transport and the geography of tourist arrivals to the country the authors use the comparative geographical method and the method of geographical analysis. The chorological (spatial) method of research is used in the analysis of outbound tourism flows in Spain, whereas chronological (temporal) research method is applied to study the dynamics of inbound tourism in Spain. Analytical and statistical methods of research, which are used by the authors, are of a great importance.

## Results

Spain has confidently taken the second position among the most popular tourist destinations in the last five years. The top-3 most visited countries of the world together with it include France and the USA. If Spain reached the second position in terms of the number of tourist arrivals, ahead of the US, in 2017, then

in 2016 it went to China which took the second place in international tourism receipts.

Tourism in Spain is the biggest branch of economy, with the share of GDP that amounts to 12%. There was a surge of tourism in the country after the Second World War. Comparing to Jordan, Croatia and Mauritius, tourism accounts for 10% or more of those countries' GDP. In France, the world's top tourism destination, tourism represents 7% of GDP [8].

In compliance with the postulates of community geography and recreational demarcation, V. Stafiihuk singled out 9 recreational areas on the territory of Spain: Northwestern, Northern, Northeastern, Eastern, Central Eastern, Central western, Southern, the Canaries and the Balearic Islands. Each of these regions has its specificity in terms of nature, climate, traditions, specializations of resort tourist service and the prospects of its development [13].

Due to its geographical position, climatic conditions in Spain are extremely diverse. Spain is rated as the leading country in Europe in terms of the number of sunny days per year. The Mediterranean seacoast of Granada and Murcia is the warmest place of Europe in winter. In summer, the temperature in Seville rises up to +50°C, whereas the highlands of the Pyrenees are covered with snow all the year round. Winters are mostly mild and rainy [6].

The tourist season in Spain continues all the year round. The most comfortable time for beach holiday is from April till the middle of October. The peak of the season is in July and August. The development of tourism is focused on the Mediterranean coast of the country and the Balearic Islands. The Canary Islands are located much further to the south, therefore many tourists visit this tourist destination in winter in order to spend their winter holiday on the beach.

The country has more than two thousand registered mineral and thermal springs with the curative qualities famous worldwide, thus there are over 120 balneological spa-centres. The Ministry of Tourism in Spain allocates 1 mln euros annually to develop health-improving tourism.

Spa-resorts are located in almost all areas of the country, from the coastal zones to the mountainous regions. Curative facilities offer thalassotherapy, climatotherapy, hydrotherapy, etc. SPA culture is highly prosperous nowadays.

Spanish architecture is considered to be the most interesting in the world. Due to the influence of foreign cultures from the Romans to the Moors, every city possesses its unique architectural style, from classical Andalusian architecture of Seville and Cordoba via Moresque style of Granada, elegant Baroque and Renaissance details in Salamanca to the combination of Gothic and modernistic styles in Barcelona [1].

As of 2020, the list of the UNESCO World Heritage Sites included 1121 sites from 167 countries. Italy and China are the world leaders in this respect, with

the most sites on the list – 55 in each country. They are followed by Spain (48), Germany (46), France (45), India (38) and Mexico (35) [7, 16].

Among the total number of UNESCO sites located on the territory of Spain, 18 are recognized to be the masterpieces of human creative genius (criterion I), 4 sites represent phenomena of exceptional natural beauty and aesthetic importance (criterion VII), and 2 sites are of mixed properties [3]. Moreover, as of 2018, 24 sites of the country are intended to be included in the World Heritage List.

Spanish infrastructure is well-developed and diverse. According to the data provided by the Spanish National Institute of Tourism, the country has 11,598 hotels, 1,872 of which are included in the category of 4–5 star hotels. It is 16% of all Spanish hotels and almost one third from the total number of accommodation facilities, boarding houses for 125,000 places and camping sites for 1.2 mln places. 144,000 employees are engaged in this sector [11].

On the whole, the total number of accommodation facilities in Spain amounts to 1.04 mln, 86% of which are hotels. The biggest number of hotels is located in Catalonia (1,197 hotels and hotel facilities) and the Balearic Islands offer the highest number of accommodation places (301,957).

In 2019, the number of people employed in the tourist industry of Spain was 2.4 million, which is 500,000 more than in 2009. By the end of 2020, over 2.19 million people worked in the tourism sector in Spain. It is 11% of all active population [11].

Another essential factor that promotes the influx of tourists to Spain is a well-developed transport infrastructure, in particular the availability of 152 airports.

In the 1960s, the country became the favorite holiday destination for tourists from other European countries, in particular Great Britain, France, Central and Northern Europe. The number of tourists increased from 3 million people in 1950 to 34.3 million people in 2000 [7].

Based on the data provided by UNWTO, in 2019, the country was ranked second in the world after France in terms of tourist arrivals, the figure being 83.4 million people [2], 8.6% more than the figure for the previous year (Table 1). In 2020, the situation was similar. The number of tourist arrivals in 2020 was 19.5 million people.

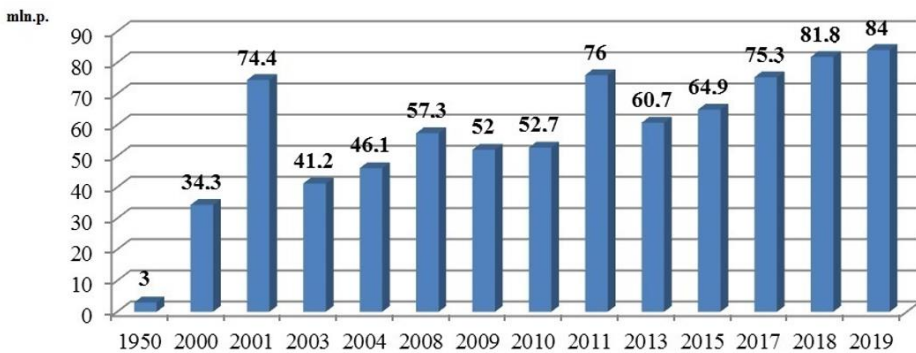
Figure 1 illustrates the dynamics of tourist arrivals in Spain.

In 2017, the income derived from international tourism in Spain increased by 2.5% and amounted to 68 billion US dollars [5]. It enabled the country to occupy the second position in the world after the USA. In 2018, this index increased by 7.04% and in monetary equivalent amounted to 81.25 billion US dollars. Incomes from the tourism branch cover the deficit of the country's trade balance by 136.6% and provide employment for 2.6 million people, which comprises more than 10% of the total amount of economically active population.

**Table 1.** Top 5 most visited countries in the world (as of 2019)

Tourist destination	A place among the countries of the world	Tourist arrivals, million people
France	1	90.2
Spain	2	83.8
USA	3	78.7
China	4	67.5
Italy	5	64.6

Source: [17].

**Figure 1.** The dynamics of tourist arrivals in Spain (million people)

Source: created by the authors based on [17].

It is worth mentioning that 2019 turned out to be the record year for Spain in terms of international tourism development. According to the data provided by Alliance for Excellence in Tourism, Exceltur, the country welcomed 84 million foreign tourists, who spent 92 billion euros or 109 billion US dollars in the country [11]. In 2020, revenues from international tourism decreased to 77.3% and amounted to 79.7 billion US dollars. The United States was the country worldwide with the highest international tourist receipts in 2021. Meanwhile, France and Spain followed in the ranking in 2021, with 40.8 billion U.S. dollars and 34.5 billion U.S. dollars, respectively.

Predominantly, the tourist arrivals in Spain were from Great Britain (approximately 17.3 million people, which is 2.2% less in comparison with the analogous period in 2018), Germany (10.7 million people; -1.8%) and France (10.6 million people; -1.3%) (Table 2).

In 2019, the Canary Islands were invariably the main tourist destination – 25.2% out of the total number of tourist arrivals, followed by Catalonia (22.5%) and Madrid (14.3%) (Table 3) [15].

**Table 2.** Geography of tourist arrivals in Spain (as of November 2019)

<b>Countries</b>	<b>Tourist arrivals, million people</b>	<b>Changes (%)</b>
In general	79.4	1.2
Germany	10.7	-1.8
Belgium	2.4	0.8
France	10.6	-1.3
Ireland	2.1	6.8
Italy	4.2	3.5
Netherlands	3.5	-4.4
Portugal	2.3	5.0
Great Britain	17.3	-2.2
Switzerland	1.7	-2.9
Russia	1.3	8.0

Source: [8].

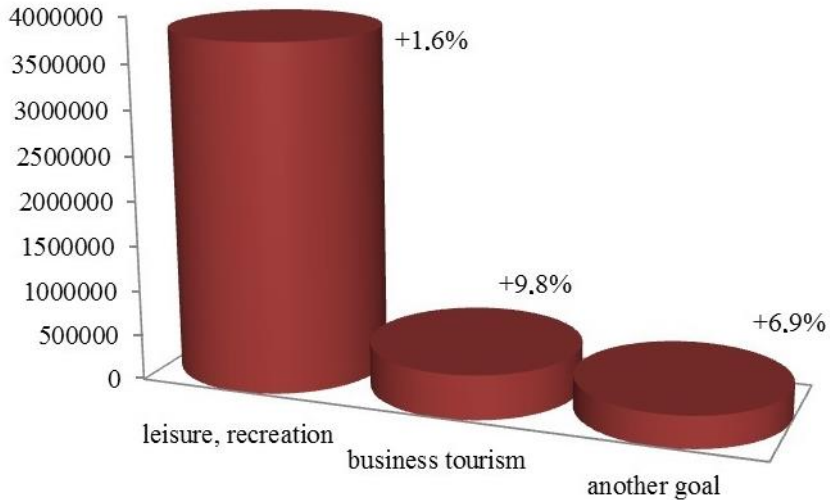
**Table 3.** Number of tourist arrivals by destinations (as of November 2019)

<b>Destinations</b>	<b>Tourist arrivals, million people</b>	<b>Changes (%)</b>
In general	79.4	1.2
Andalusia	11.5	3.5
Balearic Islands	13.6	-0.8
Canary Islands	11.9	-4.4
Catalonia	18.4	0.8
Valencia	9.1	3.8
Madrid	7.1	7.5
Other destinations	7.8	3.2

Source: [15].

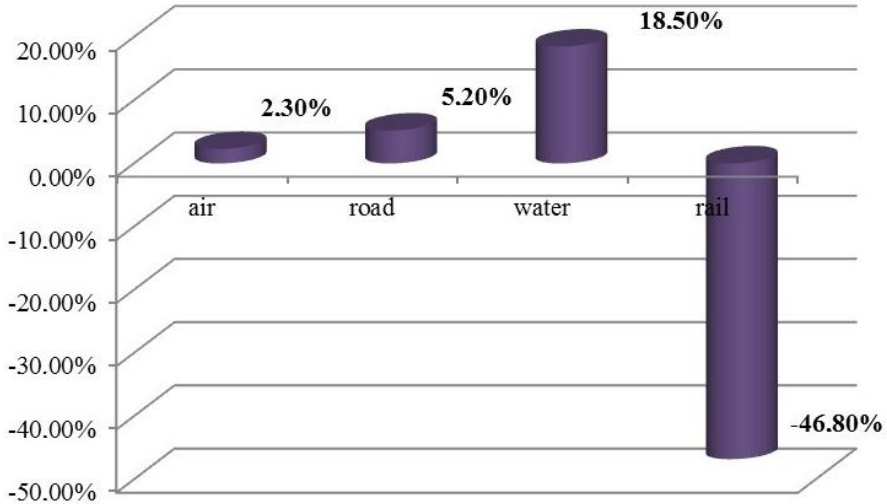
Figure 2 illustrates the distribution of tourist arrivals according to the purpose of their visit to the area investigated in November 2019, as well as its dynamics within the analogous period of the previous year.

Distribution of international tourists by preferred means of transport has changed as well (Figure 3).



**Figure 2.** Distribution of international tourists concerning the purpose of travel to Spain (as of November 2019), (%)

Source: created by the authors, based on [14, 15].



**Figure 3.** The dynamics of the distribution of tourists visiting Spain, by the predominant modes of transport (as of November 2019), (%)

Source: created by the authors, based on [7].

The global COVID-19 pandemic had a detrimental effect on the world tourist flows and first and foremost referred to Spain. Within the first half-year of 2020, Spain was visited by 10.8 million tourists, which is 71.7% less than within the

analogous period of 2019. One could observe a major decrease in the number of visitors from Great Britain (–99.6% (to 8.4 thousand people)), Germany (–97.4% (to 33.7 thousand people)) and France (–93.2% (to 64.9 thousand people)). France and Germany were the main countries of origin for international tourism in Spain in 2021. In that year, more than eleven million travellers from these two European countries headed West for a trip to Spain. Meanwhile, the United Kingdom ranked in the third place that year, accounting for around 4.3 million foreign visitors to the Spanish territory.

The number of foreign tourists that arrived in Spain in July 2020 equalled 2464.4 thousand people, which is 91.7% less than in June. Top three most interesting destinations for foreign tourists became Catalonia (37.4% from the total number of arrivals), Valencia (15.4%) and the Balearic Islands (13.8%) [9].

April and May can be called a “dead period” for the tourism sector of Spain, when a 100% decrease in tourist activity due to the global pandemic was recorded. As a result, there was a prognosticated decrease of profit in the tourism sector of the country of almost 100 billion euros, which is 15.6 billion euros more than it was estimated at the beginning of the pandemic [11].

Spain is characterised by intensive domestic tourism. Thus, in 2020, 47.3% of the Spanish opted for domestic tourism: 21% visited Andalusia, 13.3% – Madrid, 13% – Valencia. According to the official state statistics data, 90% of all the tourist flows are directed to five major recreational areas of the country: Catalonia, the Balearic Islands, the Canary Islands, Andalusia and Valencia. Average daily expenses per one tourist amount to at least 101 euros [7].

The dynamics of outbound tourist flows is increasing more slowly. The geography of outbound tourism is represented by Greece, Morocco, Portugal, Tunisia and Turkey, which provide cheaper holiday offers. Outbound tourism to the neighbouring countries is increasing at a slow rate: the number of tourists departing for Portugal increased from 2.5 million people in 1986 to 5.1 million people in 2016, and the number of those travelling to France – from 1 million people to 2.8 million people within the same period [7].

The dynamics of outbound tourism is illustrated by Table 4.

**Table 4.** Dynamics of outbound tourism

Period	The intensity of the outflow, people	Change relative to the previous year, %
2014	11 783 000	4.78%
2015	14 407 000	22.27%
2016	15 405 000	6.93%
2017	17 031 000	10.56%

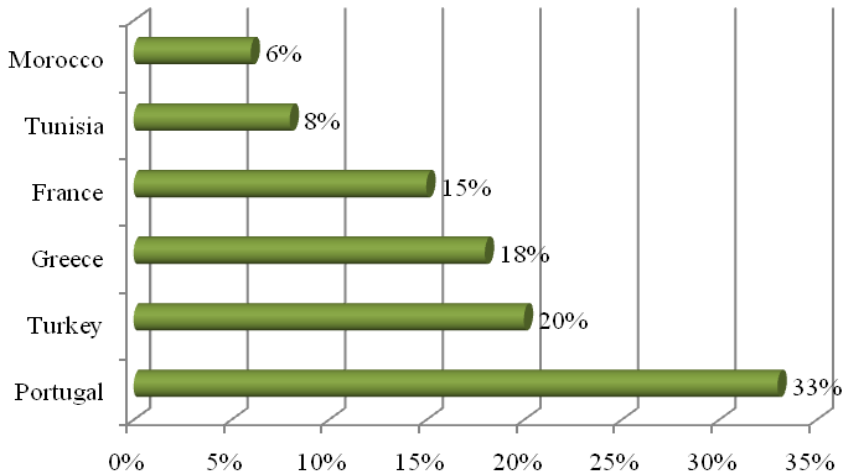
Source: [17].



In 2018, the number of Spanish tourists travelling by air amounted to only 7.5%; 90% of tourists departed from the country to the neighboring states by car. It is a clear indication that the majority of the Spanish opt for short-term tours within the country, traveling by means of automobile transport. Long-haul flights are mostly chosen by business tourists, 40.7% of whom travel to Canada and 44.5% to Japan [16].

Average tourist expenditure in Spain is 141 euros per day, according to the latest data published by the National Statistics Institute of Spain.

The most popular country amongst Spanish tourists is Portugal, the country with which Spain has common historical and cultural roots, as well as close economic relations (Figure 4).



**Figure 4.** Outbound tourism flows in Spain (as of 2017), (%)

Source: created by the authors based on [7].

France as a travel destination is chosen due to geographical proximity, perfectly developed motor highways and common linguistic community. France predominantly offers 3-star hotels, which also appeals to tourists with middle income. The reason the Spanish are attracted to the rest of the countries are business goals, education, etc.

Tourism without borders is developing in Spain more and more. A great amount of work is being carried out in the country to adapt all the resources available to the needs of the disabled by means of eliminating architectural barriers, ensuring access to cultural objects, recreational facilities in the natural environment, developing special norms in the area of transport connections, construction, landscape design, etc. A vast array of architectural monuments, mu-

seums, nature reserves, hotels and restaurants in Spain provide services, infrastructure and entertainment that are fully adapted to the needs of people with disabilities.

## Conclusion

Tourism industry of Spain predetermines workforce distribution, creation of workplaces and an increased proportion of the service sector in GDP structure, influences an effective demand for goods and services, ensures the availability of wholesome recreation and health improvement, as well as acquaintance with the historical and cultural heritage and contemporary side of Spain.

One of the most acute issues provoked by tourism development is environmental pollution, which is relevant, first and foremost, to the Mediterranean and Southern seaside areas of Spain.

Seasonal prevalence of tourism in Spain is the reason behind underemployment (in the winter period in the regions where it is widespread). The consequences of the tourism seasonality are the most significant in the seaside recreational area.

It is essential to mention the fact that the main aim of restructuring the tourism market in Spain within the recent years is the diversification of supplies in tourism, the change of existing paradigm within which the country is perceived exclusively as a beach destination. To achieve these goals, a whole number of advertising campaigns have been developed and implemented («Spain Marks», «Bravo Espana», «I need Spain», etc.).

The analysis of tourist arrivals shows that Spain is characterized by the tendency towards a steady annual increase in the number of tourists. Moreover, with each coming year there was a rise in the number of people visiting historical, cultural and architectural monuments, including those that are the World Heritage Sites. As of 2020, it can be stated that the tourist season was lost, and the country could count only on domestic tourists.

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### DECLARATION OF CONFLICTING INTERESTS

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## A new culture of travel? Controversial forms of tourism in the perception of Polish consumers – pilot study

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### Nowa kultura podróżowania? Kontrowersyjne formy turystyki w ocenie polskich konsumentów – badania pilotażowe

#### Streszczenie

Potrzeby konsumentów determinowane są przez wiele czynników, stąd ich charakter jest bardzo złożony. Część z nich pozostaje niewidoczna, co znacznie ogranicza możliwość ich eksploracji. Należą do nich potrzeby podświadomie istniejące w umyśle jednostki, instynktownie dążącej do ich zaspokojenia, oraz potrzeby, które jednostka świadomie ukrywa (przed społeczeństwem), stając się konsumentem produktów nietypowych lub kontrowersyjnych. Celem artykułu jest ocena poziomu zainteresowania wybranymi kontrowersyjnymi rodzajami turystyki, które składają się na dużą część zachowań zakupowych współczesnych konsumentów. Luka w badaniach na ten temat

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skłania do prób naukowych wyjaśnień mechanizmów związanych ze stroną popytową sektora turystycznego. Metodologia badania została oparta na wykorzystaniu technologii śledzenia kliknięć (*click-tracking*). Respondenci najczęściej wybierali trzy rodzaje turystyki: turystykę imprezową, turystykę ekstremalną oraz turystykę seksualną. Badania specyfiki rynku turystycznego, w tym kontrowersyjnych rodzajów turystyki, mogą stanowić istotne wskazówki dla sektora turystycznego w zakresie wyborów dokonywanych przy segmentacji klientów oraz zmian w kategoriach produktów oferowanych potencjalnym klientom. Ilościowe mapowanie zachowań konsumentów daje jasny obraz tego, jak postrzegane są niektóre kontrowersyjne rodzaje turystyki.

**Słowa kluczowe:** kontrowersje w turystyce, polscy konsumenci, kultura podróży, *click-tracking*.

## Abstract

Consumer needs are determined by numerous factors, hence their nature is very complex. Some of them are silent, which significantly limits the possibility of their exploration. These include the needs which exist subconsciously in the mind of an individual, who instinctively seeks to satisfy them, and the needs which an individual conceals (from the society), becoming a consumer of unusual or controversial products. The aim of this article is to assess the level of interest in selected controversial types of tourism, which make up a large part of the purchase behaviour of modern consumers. The gap in research on this subject prompts attempts to provide scientific explanations for the mechanisms associated with the demand side of the tourist sector. The research methodology was based on the use of click-tracking technology. The following three types of tourism were most frequently selected by the respondents: party tourism, extreme tourism and sex tourism. Research into the specificities of the tourism market, including controversial types of tourism, can provide vital guidance for the tourist sector as to the choices made when segmenting customers and changes in the categories of products offered to potential customers. The quantitative mapping of consumer behaviour provides a relatively clear picture of how certain controversial types of tourism are perceived.

**Keywords:** controversy in tourism, culture of travel, Polish consumers, click-tracking.

## Introduction

Controversial tourism is one of the many aspects of today's tourism economy. Given the complexity of factors associated with controversial tourism, it can be analysed in terms of e.g. the knowledge about this form of tourism, its recognition by the public, and motivations of potential tourists wishing to use such market offerings.

Publications about controversies in the tourism market analyse this subject from two perspectives. On the one hand, they are treated as a form of tourist behaviour which is contrary to the social norms in the cultural, environmental and economic spheres of life in a given destination. This type of behaviour is referred to as DTB (deviant tourist behaviour). Dysfunctional behaviour can also be observed in the case of tourist enterprises (e.g. those providing accommodation services or complementary tourist attractions) that fail to adhere to the norms existing in a given tourist destination with regard to the local cultural

model for newly established facilities or offer entertainment which is designed to artificially complement local attractions, i.e. the so-called tourist traps [28, 31,45]. On the other hand, controversies associated with the tourism market may concern all those types of tourism that are ethically questionable, controversial and ambiguous, e.g. drug tourism [43, 44], sex tourism [3, 7], medical tourism and its different types [48, 6,60, 36], slum tourism [15, 18] and slavery tourism, which was discussed by A. Yankholmes and B. McKercher [59] and S. Small [50].

This article focuses on the latter perspective and presents how potential consumers perceive this form of tourism. Such an approach offers a new perspective on the tourism economy. The clear gap in research on the subject discussed has prompted attempts to provide scientific explanations for the mechanisms associated with the demand side of the tourist sector, also in the context of its possible directions of development. This is all the more so as there are few publications on this research topic in the scientific literature. In the period of 1998-2020, only one monograph and 26 original scientific papers concerning the issues addressed in this article were published, mainly in the *Annals of Tourism Research* and *Tourism Management* (see Table 1).

**Table 1.** Research topics addressed in scientific papers published between 1998 and 2020, according to the Web of Science and Scopus databases, containing selected key words (controversy in tourism, deviant tourist behaviour) (as of 11 January 2021)

Year	Number of publications	Title of journal (number of citations according to the WoS/Scopus databases)	Research topics addressed
2020	5	Annals of Tourism Research (1/-) International Journal of Islamic and Middle Eastern Finance and Management (-/-) Journal of Hospitality and Tourism Insights (2/-) Tourism Management (-/-) Revista Cientifica Hermes (-/-)	<ul style="list-style-type: none"> <li>- deviant behaviour of hunting tourists, families on holiday, also in the context of nature</li> <li>- interaction between the deviant behaviour of hotel guests and the behaviour of hotel employees, also in the context of religion</li> </ul>
2019	4	Journal of Tourism and Cultural Change (-/-) Journal of Travel Research (1/2) Sustainability (-/-) Tourism Review International (3/2)	<ul style="list-style-type: none"> <li>- stigmatisation of deviant tourist behaviour</li> <li>- reduction of tourist deviant behaviour intention</li> <li>- tourist behaviour in the context of the consumption of cannabis products and nature protection</li> </ul>
2018	2	Hospitality and Society (3/2) Leisure Sciences (7/-)	<ul style="list-style-type: none"> <li>- deviant behaviour of customers in the informal hotel sector</li> <li>- sexual experience of travelling women</li> </ul>

**Table 1.** Research topics addressed in scientific papers... (cont.)

Year	Number of publications	Title of journal (number of citations according to the WoS/Scopus databases)	Research topics addressed
2017	2	Tourism Management (4/5) Tourism Management (3/5)	– deviant tourist behaviour
2016	2	Pacific Northwest Quarterly (-/-) Tourism Management (-/15)	– controversies surrounding tourism in protected areas – tourist vandalism
2014	1	Annals of Tourism Research (56/-)	– consumer behaviour and responsible tourism
2013	2	International Journal of Culture, Tourism, and Hospitality Research (-/39) Travel Medicine and Infectious Disease (6/-)	– dark tourism behaviour – sexual behaviour during tourism trips
2012	3+1 <sup>a</sup>	Annals of Tourism Research (41/43) Journal of Hospitality Marketing and Management (17/19) Medijska Istarzivanja (-/2)	– deviant behaviour of hotel guests in holiday resorts – deviant behaviour towards tourists – role of the Internet in tourist behaviour
2011	2	Annals of Tourism Research (34/39) Annals of Tourism Research (-/126)	– conceptualisation of deviant tourist behaviour from the perspective of psychodynamic sociology – tourist behaviour of backpackers
2010	1	Annals of Tourism Research (-/42)	– behaviour of nudist tourists
2006	1	Journal of Vacation Marketing (-/70)	– dark tourism behaviour
1998	1	Tourism Management (13/18)	– controversies in interactions between tourists and local residents

Notes<sup>a</sup> – monograph on controversies in tourism

Source: own research.

The aim of the present study is to determine the degree of recognition of controversial types of tourism among Polish consumers and find out which controversial types of tourism they find most interesting, taking into account certain demographic variables. The key objective is thus to answer the following questions:

RQ1: Could a relatively new culture of consumption relating to controversial tourism products emerge in the Polish market?

RQ2: What differences can be observed between respondents in terms of their potential interest in controversial tourism products?

RQ3: What research directions and developments relating to the offerings of controversial types of tourism should be taken into account in future studies on the tourism market?



## **Different perspectives on the issue of controversies in tourism**

The phenomena taking place in the tourist sector encompass a wide context of tourist behaviours. Given the complexity of the aspects associated with tourist behaviour (especially behaviour which does not have cultural legitimacy or is illegal), it is difficult to provide its homogenous classification [46]. Such different types of tourist behaviour as e.g. alcohol abuse, gambling, hooliganism of sports-fan tourists (e.g. in football), using the services of prostitutes or using psychoactive substances, should be regarded as a deviation from the traditional (fully acceptable) behaviour of tourists in tourism destinations. However, such behaviour exists and can be explained from the sociological perspective – it is a permissive area of social life which allows for a temporary suspension of customary moral rules of conduct [21, 49, 55, 58]. In light of the wide range of tourism phenomena, it should be noted that the existing literature concerning tourist behaviour, and especially non-normative behaviour, does not fully keep pace with the contemporary conceptualisations of tourism, which address such developments as a shift from differentiation of everyday life and tourism [56]. J. Larsen [32] refers to this mechanism as the de-exoticisation of tourism. The author explains the behaviour of tourists during tourism trips, emphasising the role of exogenous social interactions and ignoring the psychological aspect of the functioning of an individual (endogenous factors). Such one-sidedness seems to be a characteristic feature of studies on gambling [25, 34], violence [24], drug abuse [33] and sexual deviations [30]. These studies tend to be based on theories focusing on people with limited awareness and experience. However, tourists can hardly all be treated as people who do not know how to behave during travel to ensure that it is ethical.

Given the doubts prevailing among tourism experts and scientists as regards the definition of controversial tourism, this type of tourism could be viewed in the framework of tourist behaviour which is controversial, generates discussion and debate, gives rise to divergent opinions and is usually perceived negatively [53].

A. Panasiuk [42] stresses that while the assessment of controversial tourist behaviour is subjective in nature, observations of the social and economic environment provide a basis for generalisations which allow for the identification of those types of tourism which, along with the associated offerings, are objectively controversial.

Controversial types of tourism have a wide range of social, environmental, cultural and economic impacts [37]. Some controversies are strongly rooted in tourism, whereas others are new developments that emerge both unexpectedly and intentionally in association with tourism. Therefore, it is necessary to be able to recognise and assess those associations in terms of the relationship between the guest and the host, lawful and unlawful activity, functions and dys-

functions in the natural environment, and profits and losses arising from particular types of tourism, e.g. medical, sex, pharmaceutical and even nature tourism. The issues concerned are thought-provoking and undermine the idealised image of the sector, which is usually associated with pleasure, leisure and unpolluted landscape.

The diversity of views on controversies in tourism stems from the fact that they can be analysed from an endogenous and from an exogenous perspective (in the multidimensional context of the environment and civil society). Traditional controversies relating to, for instance, thanatourism, inadequate tourism planning, exploitation of workers, abuse regarding official tourism statistics, appropriation of cultural heritage components by businesses, lack of sustainability of tourism consumption, exceeded tourism-carrying capacity and absorptive capacity of a given tourism destination as a result of local events with large numbers of participants, sex tourism, organised crime and the commoditisation of culture have already been the subject of research and are relatively well described in the tourism literature. However, there are still many areas which have not been fully explored scientifically, including e.g. the increasingly growing medical, political, poverty and volunteering tourism sectors [37].

The developments associated with controversies in tourism are a complex issue, comprising relational economic, cultural and environmental aspects [4]. There are also controversial aspects to tourism and planning policies understood in the broad sense of the word. Decisions in this area may be determined by the diversity of the environment used for tourism purposes [23, 57, 26], involving various stakeholders – financial beneficiaries, local residents and companies, art and culture representatives, humanists, ethicists, conservationists, opinion leaders, and spatial planning and design professionals [22].

This literature review provides the reader with an outline of the issue addressed in this article. As seen above, the subject may be approached in various ways – from theoretical divagations to attempts at an in-depth interpretation of the phenomena concerned.

## **Determinants of tourist consumer behaviour**

Consumer needs are determined by numerous factors, hence their nature is very complex. Some of them are silent, which significantly limits the possibility of their exploration. These include the needs which exist subconsciously in the mind of an individual, who instinctively seeks to satisfy them, and the needs which an individual conceals (from the society), becoming a consumer of unusual or controversial products. At the same time, continuous advancements in

psychology and neurobiology deliver an increasing amount of significant information about the role of the conscious and unconscious mind [38].

Traditional economic concepts are closely associated with the paradigm of the rationality of human behaviour. They assume that businesses and consumers analyse carefully each activity in the market and are thus proactive and have common sense. However, such an approach was challenged by A. Tversky and D. Kahneman. Their studies and observations clearly demonstrated that the decisions of consumers are sometimes driven more by emotions than rationality, the latter being typical of *homo oeconomicus* [29]. Similar conclusions were reached by A. Damasio, who confirmed that emotions have a major impact on people's decisions [1].

Thus, the question arises whether behaviour that is not rational in a traditional sense should be considered irrational or nonsensical? It seems that such a conclusion is too far-fetched. Bounded rationality is an important element of consumer behaviour in the market, which allows for describing the decision-making process of consumers. This is all the more so as market standards are being increasingly replaced by social standards [47].

Close cooperation between representatives of different scientific disciplines allows for exploring the complex mechanisms of consumption. The skilful use of stimuli may invoke specific reactions and profile various behaviours. Consumers are usually more likely to notice things that are unusual, non-standard or unconventional. The very name of a product can make consumers become curious about it and feel pre-purchase tension. Tourist offerings and their components are subject to such mechanisms as well. The name of a dish, an optional trip or a well-designed advertising slogan are almost guaranteed to arouse the interest of customers. There are numerous controversial tourism products that meet these conditions. While this type of tourism raises ethical questions, it is intriguing, especially to the average consumer. This is a kind of atavism, i.e. things that are prohibited or not widely available are more interesting than things that are common.

The traditional approach to economic phenomena, which included the measures of price and revenue elasticity, offered a precise explanation of consumer behaviour. However, behaviourists believe this explanation was limited. Today, consumers are more sensitive to value than price. Such qualities as convenience, location and the empathy of hotel staff matter more than price. A similar phenomenon can be observed in market relations associated with controversial types of tourism. As the choice of controversial tourism products is limited, consumers make a decision more quickly. However, there may be a significant discrepancy between their declarations and their actual behaviour. In turn, consumers like to have a choice of offerings (and usually reject the extreme ones). It should, however, be emphasised that when dealing with highly complex

issues, people are unable to make reasonable calculations. This veiled freedom is still usually geared towards generating tangible benefits – especially for businesses. However, its use may support the common good. The bounded rationality in purchase decision-making should compel businesses to act more morally to the benefit of consumers. Customers focus on short-term goals and they spend their money without thinking twice. As pointed out by H. Mruk [39], “[...] a consumer is like a rookie playing chess with a professional chess player. Therefore, the products or services offered to them should be safe.”

Consumer behaviour involves a compilation of actions, decisions, ideas and experiences, which are aimed at satisfying one’s needs [52,13]. Consumer behaviour is synonymous with tourist behaviour and is one of the most frequently analysed areas of the tourism market. S.A. Cohen, G. Prayag and M. Moital [9] list several determinant factors with regard to consumer behaviour. These include decision-making processes, values, motivations, personality and identity, expectations and attitudes, perception, satisfaction, trust and loyalty, external factors, and ethical behaviour.

In traditional tourism models, decision-making is based on rationality. However, the models are criticised, mainly for the failure to capture the complexity of the process in the tourist sector. This is mainly due to the unique context in which tourist decisions are made [27]. The process of making holiday plans is a complex procedure determined by time and spatial factors (place of residence and tourism destination) [11, 8], economic factors as well as individual-related and group-related factors [2, 35]. Moreover, such situational variables as impulses, which may significantly distort the decision-making process, should also be considered. Researchers believe that capturing individual elements of the process is possible but does not provide the full, true picture of the mechanism. Therefore, it is worth focusing on the impacts of the decisions made rather than on the process itself [51].

Today, the information that consumers need to make a decision and that becomes available thanks to technological advancements plays an important role in consumer behaviour. However, information overload clouds the clarity of the situation, hindering the mechanism of choice-making. Therefore, it is necessary for consumers to rationally filter sources of information, both written and oral, during the entire tourism consumption process. Much of the contemporary research is focused on the impact of the emerging technology on tourist experience, especially in tourism destinations [12]. An increasing number of studies focus on issues like fairness and conscience as a counterweight to traditional consumer rationality.

Consumer behaviour ethics refers to the way purchasing decisions are made and followed through, and the experiences associated with them. These usually present a strong social and political element, underpinned by a belief that to-

day's consumers should be required to show restraint and resist the common culture of consumption, simplicity and lack of obligations [40, 10]. In tourism, trends called 'shopping for a better world' have even emerged. However, they are closer to ecotourism [5], rather than to controversial types of tourism.

## **Materials and methods**

The methodology of the study presented in this article may be regarded as being slightly different from the generally accepted research techniques and tools used in social analyses. The main difference is that the research process is easy and convenient from the perspective of the respondents involved in the empirical data collection process. The idea was derived from marketing, where such research methods as eye-tracking or click-tracking are not new but, when appropriately modified, offer numerous analytical possibilities for researchers.

Difficulties in collecting empirical data related to controversies on the tourism market require effective tools for their collection. Especially those that will be an incentive for the respondents to participate in the survey, an incentive different from, for example, common questionnaires carried out in surveys. Therefore, it was decided to use this research technique.

The data collection process was primarily based on fixations, i.e. fixation of gaze on a particular element displayed on a computer screen. A slide with the names of different types of tourism was specially prepared for that purpose (Figure 1). The respondents focused on the slide, while listening to the instructions given by the researcher. The names of different types of tourism were distributed randomly on the slide, and there was no time limit for the participants to make their choice.

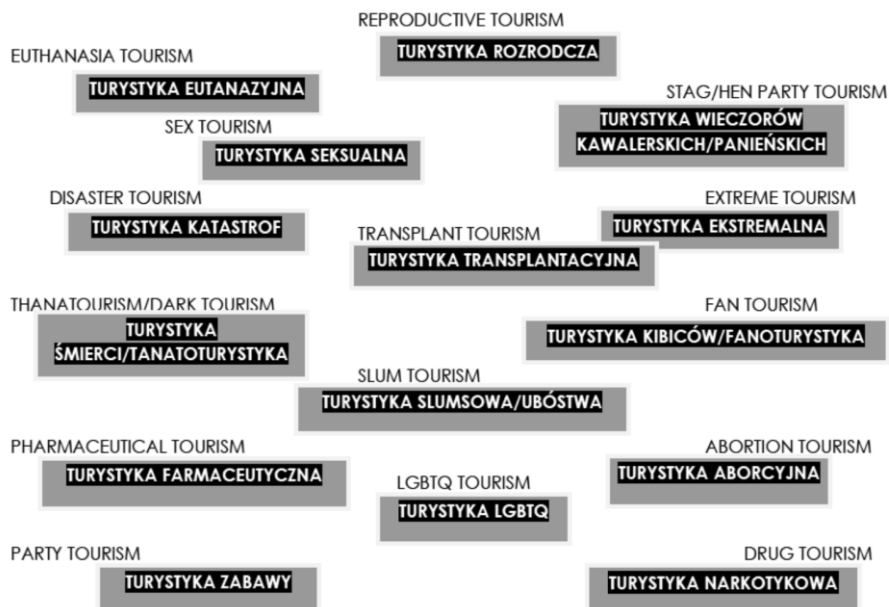
The research process comprised the following steps:

1. Instruction: Read the names of different types of tourism and their brief description (a slide with the material was displayed to the respondents, who were sitting in front of computer screens).
2. Instruction: Click on those types of tourism that you find most interesting (a slide with Figure 1 was displayed to the respondents, who were sitting in front of computer screens).
3. Analysis of the respondents' choices.

The study was carried out using tools and software from BioStat<sup>®</sup>, which was involved in the data collection and quantification process, and in the preparation of heatmaps.

Several independent variables were included in the analysis of the research material – place of residence of the respondents (urban area/rural area), their

age and sex, number of tourist trips per year, and their average annual tourism expenditure. There were a total of 80 participants in the study (Table 2).



**Figure 1.** Slide with the names of controversial types of tourism used in the research

Source: own compilation.

**Table 2.** Characteristics of the respondents

Place of residence	number	percentage
urban area	61	76.25
rural area	19	23.75
Total	80	100.0
Sex	number	percentage
female	41	51.25
male	39	48.75
Total	80	100.0
Age (in years)	number	percentage
18–29	24	30.0
30–39	32	40.0
40–49	16	20.0
50 and over	8	10.0
Total	80	100.0

**Table 2.** Characteristics of the respondents (cont.)

<b>Number of tourist trips per year</b>	<b>number</b>	<b>percentage</b>
0	2	2.5
1–2	41	51.25
3–4	27	33.75
more than 4	10	12.51
Total	80	100.0
<b>Average annual tourism expenditure</b>	<b>number</b>	<b>percentage</b>
up to PLN 1,000	10	12.5
PLN 1,001-2,000	12	15.0
PLN 2,001-3,000	19	23.75
PLN 3,001-4,000	15	18.75
over PLN 4,000	24	30.0
Total	80	100.0

Source: own research.

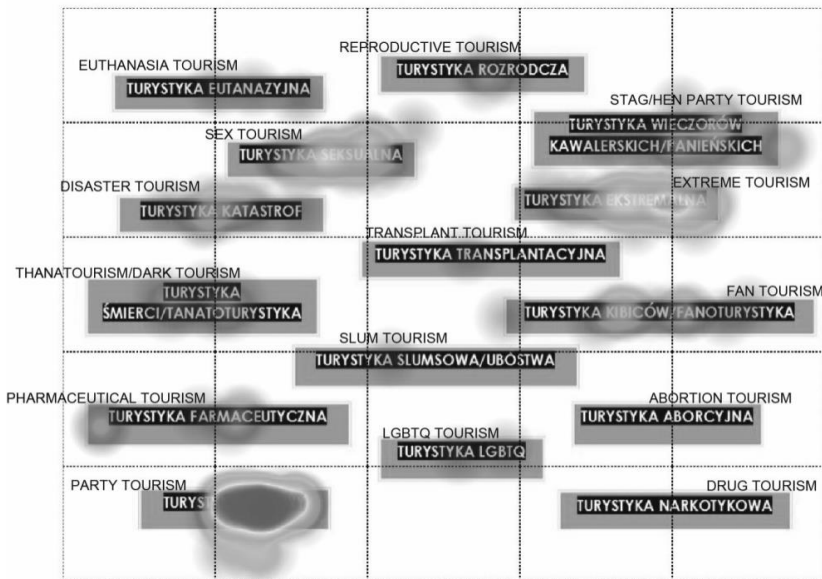
The subject addressed in the study pertains to issues which are socially sensitive and often come in for criticism, which may have had a significant impact on the empirical data obtained. Moreover, the relatively small sample used in the study may, in a way, have distorted the results in terms of their representativeness for the entire population and the conclusions drawn. However, an increasing number of researchers believe that studies on small samples (segments) of the population are important as the starting point for population studies [17]. Such studies allow for the collection of precise data and, at the same time, explain why study participants behave in a given way, also in the context of external factors.

The basic function of the pilot studies is to obtain some initial, incomplete knowledge about the studied community, which may provide assumptions for further scientific research [41]. Quantitative and percentage indications were used in the analysis of the research results. They were sufficient for the evaluation of the phenomenon, obtaining answers to research questions, and allowed to draw final conclusions.

## Results

The results of the study show interesting correlations between the types of tourism selected by the respondents and independent variables, i.e. the characteristics of the respondents. The overall findings show that the two controversial types of tourism that were most frequently selected by the respondents are 'party tourism' (56.3%) and 'extreme tourism' (33.8%). Other types of tourism that were rela-

tively frequently selected by the respondents are ‘sex tourism’ (23.8%) and ‘stag/hen party tourism’ (16.3%). Two types of tourism were not selected by any of the respondents. These were ‘drug tourism’ and ‘abortion tourism’ (Figure 2). When interpreted more narrowly, the controversial types of tourism may raise some doubts. Party tourism often involves behaviour associated with sex tourism or drug tourism, which were much less frequently selected by the respondents. This is probably due to the names used for those types of tourism – the term ‘party tourism’ has much more positive connotations than ‘sex tourism’. One surprising finding was the very small number of clicks on ‘thanatourism’, which was similar to the number of clicks on ‘transplant tourism’ and the number of clicks on ‘slum tourism’.



**Figure 2.** Types of tourism that the respondents found most interesting – click-heatmap

Source: own research.

The respondents' choices differed depending on their place of residence (urban area – rural area). Respondents living in urban areas selected ‘stag/hen party tourism’, ‘sex tourism’ and ‘fan tourism’ significantly more often than those living in rural areas. Moreover, two respondents living in urban areas clicked on ‘LGBTQ tourism’ (Table 3). It seems that there is a simple explanation to this finding. Towns offer significantly more opportunities for satisfying one's needs related to these types of tourism compared to rural areas. One interesting, yet somewhat paradoxical, finding was that none of the respondents living in rural areas clicked on ‘thanatourism’ (which also covers such activities as visits to burial sites/cemeteries). It would seem that people living in rural areas are



greater traditionalists, who assiduously cultivate their customs and religious practices. However, such reactions among the respondents living in rural areas may be due to the fact that they feel the need to be more 'modern' and identify with the hedonistic consumerism of experiences.

The analysis also revealed interesting results regarding the sex variable. Women selected 'sex tourism' and 'fan tourism' significantly less often than men. Female respondents tended to select 'stag/hen party tourism' and 'extreme tourism'. Interestingly, more women than men selected 'disaster tourism'. Identification with and empathy towards the victims and their families may have been a subconscious reason for the choice of this type of tourism.

As for the association between the types of tourism selected by the respondents and their average annual tourism expenditure, there were no significant differences between particular sub-groups. As in the case of the overall findings for the entire group of respondents, the two types of tourism that received the highest number of clicks in all the sub-groups were 'party tourism' and 'extreme tourism'. However, 'euthanasia tourism' was selected only by those respondents who spend between PLN 1,001 and PLN 2,000 on tourism trips. This sub-group was the most diverse in terms of their choices, as nearly all types of tourism were selected by these respondents. This diversity may be due to the relatively limited amount of money these respondents can spend on tourism trips. As these individuals rationally plan their trips, they choose those types of tourism that they find most interesting as they may not be able to go on another trip in a given year due to money constraints.

It seems that there is no similarity between the age of the respondents and the types of tourism they find interesting. The two types of tourism most frequently selected by respondents in each age group were 'party tourism' and 'extreme tourism'. In the case of the two youngest age groups (18-29 and 30-39), very few respondents clicked on 'reproductive tourism', whereas none of the respondents in the oldest age group (50 and over) selected 'sex tourism'.

The number of tourist trips the respondents make every year proved to be a factor that differentiated consumer choices. While 'party tourism' was the most frequently selected type of tourism in all three sub-groups, there were slight differences between them in terms of 'extreme tourism'. Namely, a relatively large proportion of the respondents who travel 1 or 2 times a year and those who travel 3-4 times a year selected 'extreme tourism', whereas this type of tourism was significantly less frequently selected by individuals travelling more than 4 times a year. A similar trend can be observed for 'sex tourism' – the more trips the respondents make a year, the less likely they were to select this type of tourism. Thus, it seems that a higher number of travels translates into a lesser interest in non-standard experiences. This is probably due to the fact that those tourists who travel more are able to satisfy such needs during other tourist trips they make throughout the year.

**Table 3.** Numbers of clicks on particular controversial types of tourism by demographic variables

Demographic features	Types of tourism													
	Reproductive tourism	Euthanasia tourism	Stag/hen party tourism	Sex tourism	Extreme tourism	Disaster tourism	Transplant tourism	Thanatourism	Fan tourism	Slum tourism	Pharmaceutical tourism	LGBTQ tourism	Party tourism	
<b>Sex</b>														
Female	2	3	7	5	15	5	1	4	3	1	4	1	18	
Male	1	0	5	12	13	4	0	3	8	0	1	1	22	
<b>Place of residence</b>														
Urban area	3	2	11	13	19	7	1	7	9	1	4	2	25	
Rural area	0	1	1	4	9	2	0	0	2	0	1	0	15	
<b>Age</b>														
18–29	1	1	2	6	9	4	1	1	2	0	0	1	12	
30–39	2	0	8	6	13	2	0	2	4	1	4	1	15	
40–49	0	1	1	5	3	2	0	3	5	0	0	0	10	
50 and over	0	1	1	0	4	1	0	1	1	0	1	0	6	
<b>Trips per year</b>														
0	0	0	0	0	1	0	0	0	0	0	0	0	3	
1–2	1	3	5	12	15	6	0	4	4	0	2	1	20	
3–4	1	0	4	5	10	3	1	3	7	0	1	1	13	
more than 4	1	0	3	2	2	0	0	0	1	1	2	0	7	
<b>Average annual tourism expenditure (PLN)</b>														
up to 1,000	0	0	1	2	6	0	0	0	1	0	0	0	7	
1,001–2,000	1	3	1	2	2	1	0	2	1	1	3	0	6	
2,001–3,000	1	0	4	4	5	3	0	1	3	0	1	1	10	
3,001–4,000	0	0	2	4	7	3	0	3	2	0	-	1	6	
over 4,000	1	0	4	5	8	2	1	1	5	0	1	0	15	

\* the numbers of clicks in particular rows do not add up to the total number (N) shown in Table 1, as the respondents could select more than one type of tourism

Source: own research.

## Discussion and conclusions

There may be different approaches to discussion of the issues analysed in this article – from an economic analysis of potential demand, stemming from consumer needs, through psychological factors associated with the purchase of controversial goods, to drawing sociological conclusions that explain the social relationships in which an individual is embedded. Each of these approaches is valid, and they should be used in combination – people are highly complex and thus their behaviour cannot be explained without considering endogenous and exogenous factors. Therefore, the present findings pave the way to understanding the structure of consumer behaviour with regard to the controversial (and sometimes dysfunctional) part of the tourism market.

Each tourist activity is an exemplification of the objective pursued by a given tourist, and emotional experiences are its obvious component. We all travel for a purpose. According to A. Steinecke [54], “[...] tourists seek experiences that are most unusual and arouse strong emotions. Their efforts to satisfy those needs will be a crucial factor in the development of consumer and tourism markets”.

The biggest problem in terms of ethical consumer behaviour is the discrepancy between declarations and actual purchase behaviour. Few tourists are able to combine, without compromise, those two elements into a productive whole that is favourable to the development of the positive functions of tourism. In the case of controversial types of tourism, a number of situational variables may arise, making it difficult or impossible to comply with ethical standards. Moreover, dissatisfaction with the quality of a tourist service and the associated negative emotions contribute to questionable behaviour in tourist-receiving areas, i.e. behaviour which breaches the generally acceptable standards of behaviour in consumption situations [16]. Such behaviour may stem from economic and non-economic motivations, which are usually determined by typically cognitive or rational factors [14].

The present study yielded the following conclusions:

1. Research into the specificities of the tourism market, including controversial types of tourism, can provide vital guidance for the tourist traffic sector as to the choices made when segmenting customers and changes in the categories of products offered to potential customers.
2. Few respondents selected the most morally questionable types of tourism. However, the results should be confirmed by a more comprehensive research on the factors which lie behind the respondents' choices.
3. The quantitative mapping of consumer behaviour provides a relatively clear picture of how particular controversial forms of tourism are perceived. It also allows for attempts at social interpretation of deviant tourist behaviour.

It should be stressed that the existing research analysing controversial types of tourism in the context of contemporary consumer models confirms the relatively high popularity of tourism products which raise ethical questions, especially from the perspective of service providers [19, 20]. However, future studies should aim to provide a deeper insight into purchase decision-making mechanisms, using e.g. customised procedures, or identify other variables that have a significant impact on those processes (e.g. personality traits, subconscious reactions of respondents from a biochemical or physiological perspective, or identification of classic cognitive dissonance). It is worth making such attempts not only in the virtual world but also in the real one.

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#### DECLARATION OF CONFLICTING INTERESTS

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**BIOGRAMY, DYSKUSJE, POLEMIKI, RECENZJE,  
PRZEGLĄD WYDAWNICTW, SPRAWOZDANIA**



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## Is there a room for proper scientific discussion in the area of controversies and competing scientific theories? A polemic

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### Czy w obszarze kontrowersji i istniejących konkurencyjnych teorii naukowych nie należy dopuścić do odpowiedniej naukowej dyskusji? Artykuł polemiczny

#### Streszczenie

Od wielu lat rywalizują teorie auto- i allochtoniczna pochodzenia Słowian oraz ich zwolennicy. Badania z ostatnich lat (genetyczne, antropologiczne, a także lingwistyczne) potwierdzają wczesne zaistnienie Słowian na ziemiach polskich oraz ich stałe zasiedlenie tych ziem. Wbrew temu w niektórych środowiskach, zwłaszcza wśród archeologów, tezy o autochtoniczności Słowian traktowane są jako błędy merytoryczne. Bezpośrednim powodem napisania tego artykułu jest fakt zablokowania upowszechnienia wydanej już książki z historii kultury fizycznej.

Rzecz dotyczy dwóch kwestii – 1) sposobu funkcjonowania nauki i dochodzenia do prawdy, gdy zderzają się konkurencyjne paradygmaty (w perspektywie socjologii nauki); 2) pochodzenia Słowian, bezpośrednich przodków dzisiejszych Polaków, co wydaje się szczególnie ważne zarówno dla

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polskiej historii, jak i dzisiejszej tożsamości. Zdaniem autora zwolennicy koncepcji allochtonicznej ignorują wiedzę wynikającą z badań i publikacji ostatnich lat, toteż zostały przytoczone publikacje – skrótowy przegląd literatury przedmiotu.

**Słowa kluczowe:** słowiańskie starożytności, zachodni Słowianie, rywalizujące teorie, paradygmat, nowa wiedza.

## Abstract

Auto- and allochthonous theories of the origin of the Slavs and their supporters have been competing for many years. Recent research (genetic, anthropological and linguistic) confirms the early appearance of the Slavs on Polish lands and their permanent settlement in these lands. Contrary to this, in some circles, especially among archaeologists, the theses about the indigeneness of the Slavs are treated as substantive errors. The direct reason for writing this article is the fact that the dissemination of an already published book on the history of physical culture has been blocked.

The article concerns two issues – 1) the way science functions and the way to find the truth when competing paradigms collide (from the perspective of the sociology of science); 2) the origin of the Slavs, the direct ancestors of today's Poles, which seems particularly important both for Polish history and today's identity. According to the author, supporters of the allochthonous concept ignore the knowledge resulting from research and publications of recent years. Therefore, publications have been cited - a brief review of the literature on the subject.

**Key words:** Slavic antiquities, Western Slavs, competing theories, paradigm, new knowledge

## Introduction

The inspiration for writing this article came from the fact that His Magnificence, Rector of the University of Rzeszów banned the dissemination of an already published book entitled *Ewolucja rekreacji na ziemiach polskich* [*The Evolution of Recreation on the Polish Territory*]. The book in question was written by Grzegorz Bielec, PhD, and Prof. Wojciech J. Cynarski, who are both employed at the Institute of Sciences on Physical Culture at the aforementioned university. Their work was reviewed by Prof. UJD (Jan Długosz University in Częstochowa) Eligiusz Małolepszy, PhD Habilitatus, a specialist in the history of physical culture. The aforementioned publication focuses on the history of physical culture, and in particular physical recreation. This book<sup>1</sup> was assessed by the Institute Council, an agreement on its publication was signed, the publishing process was finished, and when the whole edition was printed, the aforementioned decision to cancel the whole edition arrived. The matter is without any precedence. The author used an opportunity to publish his article in "Sport and Tourism Central European Journal" in the rubric devoted to biograms, discussions, polemics, reviews, publication reviews, reports.

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<sup>1</sup> G. Bielec, W.J. Cynarski, *Ewolucja rekreacji na ziemiach polskich*, Wyd. UR, Rzeszów 2022.

The author claims that the aim of science is to pursue the truth understood in the classical way.<sup>2</sup> It is placed in the oath taken during one's PhD nomination. Therefore, despite certain risk related to the reluctance of some environments to change deeply-rooted views on given areas of reality (called paradigms), this effort was made in the name of truth about the very origins of the Polish nation and its history dating back to the times before the establishment of the Christian, Polish statehood. The authors decided to discuss the matter beginning with ancient earliest beginnings.

During his inaugural lecture at the University of Rzeszów, which was devoted to freedom of speech in science, the Minister of Education and Science, Przemysław Czarnek, emphasised what follows, "The constitutional legislator guarantees everyone artistic freedom, scientific research and publishing its results, freedom of education and benefiting from cultural heritage."<sup>3</sup> Is this freedom of publishing research results granted in that case?

What stood behind the decision to ruin the results of the research conducted by the whole group of scholars? Why did the textbook for students require such an exceptional intervention? Did it? Is acting like this a good way to impose one's scientific domination? Is it not better to run polemics in scientific periodicals with the use of substantive arguments? There should be more questions devoid of answers in this article. Similarly, the authors' question about the reason of this decision, i.e. what was badly/ wrongly written was left without a straightforward answer. The author of this article thinks that the main reason was the discrepancy between certain theses present in the book and the paradigm accepted by some scientific environments.

**From the point of view of sociology of science**, explored among all by Robert Merton and Thomas Kuhn,<sup>4</sup> one has to take into account social conditions and difficulties regarding the change in a paradigm, i.e. commonly accepted way of scientific conduct and interpretation of certain facts. There is, for example, a psychological issue of cognitive dissonance. That is why, despite new scientific findings, one sometimes finds it difficult to agree that things are different than they used to believe. It happens that someone sticks faithfully to a given version of a scientific description in an irrational way. And how does it relate to the attitude of openness and to the imperative of pursuing the truth?

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<sup>2</sup> W. J. Cynarski, Z. Reguli, *Participation in cultural dialogues based on the classical theory of truth*, "Ido Movement for Culture. Journal of Martial Arts Anthropology" 2022, vol. 22, no. 4, pp. 1–6.

<sup>3</sup> P. Czarnek, *Wykład inauguracyjny prof. dra hab. Przemysława Czarnka*, "Gazeta Uniwersytecka UR" 2022, nr 3, p. 18.

<sup>4</sup> T. Kuhn, *Struktura rewolucji naukowych (The Structure of Scientific Revolutions)*, translated by H. Ostromecka, PWN, Warszawa 1968.

Imre Lakatos used a concept of a research programme.<sup>5</sup> Among competing theories (research programmes) wins the one which can explain a given area of reality in a better way. A falsified theory is rejected, or, alternatively, modified. In case of existing controversies or total lack of certain knowledge (description, explanation), various theories or hypotheses are considered equal and wait to be confirmed or rejected in the course of research. It is possible to use empirical or logical evidence.

## Competing theories concerning the origins of Western Slavs

For many years, the origins of Western Slavs, also called Lechites due to the name of Lechitic languages used in linguistics (which particularly concerns the ancestors of contemporary Poles and Polabian Slavs), have been a bone of contention among various specialists, divided into the supporters of the autochthonous and allochthonic theories. In a nutshell, the first group thinks that the ancestors of contemporary Poles have been living on the territory of contemporary Poland even for several thousand years, whereas the latter believes that Slavs arrived there only in the 6<sup>th</sup> – 7<sup>th</sup> centuries AD.

The author supports the autochthonous theory confirmed by archeological studies and publications by Prof. Józef Kostrzewski (1885–1969) / the research programme of this scholar showing that at least since the time of Biskupin settlement (archeological Lusatian culture) the immediate ancestors of contemporary Poles have been living on the Polish territory all that time.<sup>6</sup>

The competing, allochthonic theory points to a late arrival of Slavs to this territory – from Pripyat and also from other directions. This concept is in accordance with the idea of Grand Germania propagated by Gustaf Kossina (1858–1931). In Kosiński's opinion, G. Kossina's views and Nazi, Pan-Germanic ideology of Slavs propagated by him and still persisting among many Polish researchers result in presenting Slavs as latecomers, strangers who suddenly appeared in Europe in the 6<sup>th</sup> and 7<sup>th</sup> centuries – primitive, illiterate people without any ancient past, etc.<sup>7</sup> People who were able to produce ceramics and other artifacts of poor quality, as those more beautiful ones must have been created by Celts and Germans.

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<sup>5</sup> I. Lakatos, *Pisma z filozofii nauk empirycznych*, (translated by W. Sady) PWN, Warszawa 1995.

<sup>6</sup> Cf. J. Kostrzewski, *Kultura prapolska*, II wyd., Instytut Zachodni, Poznań 1949; idem, *Zagadnienie ciągłości zaludnienia ziem polskich w pradziejach (od połowy II tysiąclecia p.n.e. do wczesnego średniowiecza)*, Poznań 1961; idem, *The question of the continuity of the population of the Polish lands*, PWN, Poznań 1963; P. Jasienica, *Słowiański rodowód*, Państwowy Instytut Wydawniczy, Warszawa 1978.

<sup>7</sup> T. Kosiński, *Rodowód Słowian. Nowe spojrzenie na jeden z najbardziej fascynujących problemów w dziejach Starego Kontynentu*, Bellona, Warszawa 2017, s. 10–11.



In the light of the latest empirical studies, it is relatively easy to demonstrate the falsity of this allochthonic concept. First of all, this concept can be regarded as false and rejected taking into account the findings of genetic research of an international team led by Prof. Peter Underhill (Stanford University, USA). The very same conclusions can be drawn from other genetic and archeogenetic research (concerning both the male transition line, i.e. haplogroup Y-DNA, and the female one – mt DNA).<sup>8</sup>

<sup>8</sup> Cf. A.A. Klyosov, *DNA Genealogy, Mutation Rates, and Some Historical Evidence Written in Y-Chromosome, Part I: Basic Principles and the Method*, "Journal of Genetic Genealogy" 2009, vol. 5, no. 2, pp. 186–216; idem, *DNA Genealogy, Mutation Rates, and Some Historical Evidence Written in Y-Chromosome, Part II: Walking the Map*, "Journal of Genetic Genealogy" 2009, vol. 5, no. 2, pp. 217–255; A. Klyosov, G.T. Tomezzoli, *DNA genealogy and linguistics. Ancient Europe*, "Advances in Anthropology" 2013, no. 3, pp. 101–111; P.A. Underhill, N.M. Myres, S. Rootsi, M. Metspalu, L.A. Zhivotovsky, R.J. King, A.A. Lin, C.E.T. Chow, O. Semino, V. Battaglia, I. Kutuev, M. Järve, G. Chaubey, Q. Ayub, A. Mohyuddin, S. Qasim Mehdi, S. Sengupta, E.I. Rogaev, E.K. Khusnutdinova, A. Pshenichnov, O. Balanovsky, E. Balanovska, N. Jeran, D. Havas Augustin, M. Baldovic, R.J. Herrera, K. Thangaraj, V. Singh, L. Singh, P. Majumder, P. Rudan, D. Primorac, R. Villems, T. Kivisild, *Separating the post-Glacial coancestry of European and Asian Y chromosomes within haplogroup R1a*, "European Journal of Human Genetics" 2010, vol. 18, pp. 479–484, published online 4 November 2009; A. Juras, M. Dabert, A. Kushniarevich, H. Malmström, M. Raghavan, J.Z. Kosicki, E. Metspalu, E. Willerslev, J. Piontek, *Ancient DNA Reveals Matrilineal Continuity in Present-Day Poland over the Last Two Millennia*, "Plos One" 2014, vol. 9, no. 10, e110839; P.A. Underhill, G.D. Poznik, S. Rootsi, M. Järve, A.A. Lin, J. Wang, B. Passarelli, J. Kanbar, N.M. Myres, R.J. King, J. Di Cristofaro, H. Sahakyan, D.M. Behar, A. Kushniarevich, J. Šarac, T. Šaric, P. Rudan, A. Kumar Pathak, G. Chaubey, V. Grugni, O. Semino, L. Yepiskoposyan, A. Bahmanimehr, S. Farjadian, O. Balanovsky, E.K. Khusnutdinova, R.J. Herrera, J. Chiaroni, C.D. Bustamante, S.R. Quake, T. Kivisild, R. Villems, *The phylogenetic and geographic structure of Y-chromosome haplogroup R1a*, "European Journal of Human Genetics" 2015, vol. 23, pp. 124–131, published online 26 March 2014; M. Noińska, *Genetyka populacyjna a problem etnogenezy Słowian*, "Studia Rossica Gedanensia" 2016, nr 3, pp. 143–156; Z. Juhász, E. Dudás, H. Pamjav, *A new self-learning computational method for footprints of early human migration processes*, "Mol Genet Genomics" 2018, vol. 293, pp. 1579–1594; A. Juras, P. Makarowicz, M. Chyleński, E. Ehler, H. Malmström, M. Krzewińska, Ł. Pospieszny, J. Górski, H. Taras, A. Szczepanek, M. Polańska, P. Włodarczyk, A. Szyca, A. Lasota-Kuś, I. Wójcik, M. Jakobsson, M. Dabert, *Mitochondrial genomes from Bronze Age Poland reveal genetic continuity from the Late Neolithic and additional genetic affinities with the steppe populations*, "American Journal of Physical Anthropology" 2020, vol. 172, no. 2, pp. 176–188; S. Zdziebłowski, *Co wiemy o ciągłości zasiedlenia obecnych ziem Polski na przełomie neolitu i epoki brązu?*, 2020; <https://naukawpolsce.pap.pl/aktualnosci/news%2C81896%2Cco-wiemy-o-ciąglosci-zasiedlenia-obecných-ziem-polski-na-przełomie-neolitu-i> [access: 17.11.2020]; idem, *Co wiemy o ciągłości zasiedlenia obecnych ziem Polski na przełomie neolitu i epoki brązu?*, 2020; <https://www.gov.pl/web/nauka/co-wiemy-o-ciąglosci-zasiedlenia-obecných-ziem-polski-na-przełomie-neolitu-i-epoki-brązu> [access: 17.11.2020]; L. Papac, M. Ernée, M. Dobeš, M. Langová, A.B. Rohrlach, F. Aron, G.U. Neumann, M.A. Spyrou, N. Rohland, P. Velemínský, M. Kuna, H. Brzobohatá, B. Culleton, D. Daněček, A. Danielisová, M. Dobisíková, J. Hložek, D.J. Kennett, J. Klementová, M. Kostka, P. Křišťuf, M. Kuchařík, J. Kuljavceva Hlavová, P. Limburský, D. Malyková, L. Mattiello, M. Pecinová, K. Petrišáková, E. Průchová, P. Stránská,

The same derives from new linguistic research;<sup>9</sup> from older and more recent anthropological research;<sup>10</sup> from the analysis of historical sources (chronicles);<sup>11</sup> and finally from interdisciplinary analyses and following the way of logical deduction.<sup>12</sup>

In his impressive work entitled *Słowiańskie starożytności* (*Slavic Antiquities*) (796 pages, including numerous quoted written sources), a Slovak scholar, Paweł Józef Szafarzyk, pointed to “the continuity of Slavic settlement in Europe” writing that “[...] nations of the Slavic origin are ancient inhabitants of Europe, who [...] since prehistoric times [...] have been settled here.”<sup>13</sup> This author proves this thesis quoting numerous historical sources. The oldest ones are stories about Veneti people and Serbs, whose names are considered to be the earliest. “Amber and Veneti people collecting it have been known to the Greeks since time immemorial.”<sup>14</sup> Timaeus uses a Finnish/ Estonian name of *Wannoma* for the land of Veneti (*Wann*)<sup>15</sup> people. The name *Vindi* is earlier than *Venedi*. Cornelius Nepos and Plinius used both names respectively. Later on, Claudius

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<sup>9</sup> Vide: M. Alinei, *An alternative model for the origins of European peoples and languages: the continuity theory*, “Quaderni di Semantica” 2000, vol. 21, pp. 21–50; idem, *The Slavic Ethnogenesis in the framework of the Paleolithic Continuity Theory*, 2020; [https://www.academia.edu/11751155/The\\_Slavic\\_Ethnogenesis\\_in\\_the\\_framework\\_of\\_the\\_Paleolithic\\_Continuity\\_Theory](https://www.academia.edu/11751155/The_Slavic_Ethnogenesis_in_the_framework_of_the_Paleolithic_Continuity_Theory) (57 pp.) [access: 24.04.2021]; P. Jondáček, A. Perdih, *A novel view of the origins development and differentiation of Indo-Europeans*, [in:] *Zbornik seste mednarodne konference Izvor Evropejcev*, 2008; [https://www.researchgate.net/publication/265073475\\_A\\_NOVEL\\_VIEW\\_OF\\_THE\\_ORIGINS\\_DEVELOPMENT\\_AND\\_DIFFERENTIATION\\_OF\\_INDO-EUROPEANS?](https://www.researchgate.net/publication/265073475_A_NOVEL_VIEW_OF_THE_ORIGINS_DEVELOPMENT_AND_DIFFERENTIATION_OF_INDO-EUROPEANS?); W.J. Cynarski, *Linguistic and anthropological look at Lechitic-Slavic warriors and their contemporary descendants*, “The Linguistics Journal” 2020, vol. 14, no. 2, pp. 32–49.

<sup>10</sup> J. Czekanowski (ed.), *Wstęp do historii Słowian. Perspektywy antropologiczne, etnograficzne, archeologiczne i językowe*, 2<sup>nd</sup>edn., Poznań 1957; J. Piontek, B. Iwanek, *Ludność kultury łuzyckiej i kultury pomorskiej a problem pochodzenia Słowian*, Muzeum Archeologiczne, Gdańsk 2010; J. Piontek, *Etnogeneza Słowian jako problem badawczy antropologii fizycznej*, “Nauka” 2020, no. 1, pp. 151–182.

<sup>11</sup> P.J. Szafarzyk, *Słowiańskie starożytności*, PTPN, Poznań 1837/2003; P. Makuch, *Od Ariów do Sarmatów. Nieznane 2500 lat historii Polaków*, Księgarnia Akademicka, Kraków 2013; A. Leszczyński, *Dawne źródła historyczne łączące Wenedów, Wandalów i Słowian*, “Forum Historyczno-Spoleczne”. Rocznik PTH O. w Gorzowie Wielkopolskim 2016, nr 4, pp. 11–27.

<sup>12</sup> Cf. W.J. Cynarski, A. Maciejewska, *The Proto-Slavic Warrior in Europe: The Scythians, Sarmatians and Lekhs*, “Ido Movement for Culture. Journal of Martial Arts Anthropology” 2016, vol. 16, no. 3, pp. 1–14; H. Haarmann, *Auf den Spuren der Indoeuropäer. Von den neolithischen Steppennomaden bis zu den frühen Hochkulturen*, C.H. Beck, München 2016; B.A. Dębek, *Słowiańskie dzieje*, Bellona, Warszawa 2018.

<sup>13</sup> P.J. Szafarzyk, *Słowiańskie starożytności*, op. cit., p. 38.

<sup>14</sup> Ibidem, p. 79.

<sup>15</sup> Ibidem, p. 82.

Ptolemy and others also mentioned Veneti people. On the other hand, Pliny the Elder mentions Serbs in his work of 79 AD, and other writers follow.<sup>16</sup>

## Summary

Thus, in the author's opinion, the current autochthonous theory of Slavic origins seems to be already well-/ sufficiently proven. What is more, a series of logical proofs could be given to unambiguously show the merit of the autochthonous theory of Proto-Slavic and Slavic settlement in Central Europe at least from the times of the early Bronze Age.<sup>17</sup> A German linguist, archeologist and historian, Harald Haarmann, points to the fact that Slavs used to inhabit the territories of contemporary Germany and Poland already around 2000 BC.<sup>18</sup> Therefore, why cannot the book published in Rzeszów refer to these scientific findings of the last ten years? Or maybe the aforementioned book can be published in another scientific publishing house?

The author has also prepared a separate book on the matters he has been studying for the last years. Will he succeed in finding a scientific publishing house willing to publish his book? And is it really worth fighting for the truth concerning the history of our ancestors? The author's answer to the last question is affirmative – it is worth it as it is worth being faithful to oneself and being an honest scientist. It does not mean that the researcher does not make mistakes in details. However, generally, it is relatively easy to demonstrate the compliance or lack of it with the aforementioned research results (*vide*: Bibliography).

<sup>16</sup> Ibidem, pp. 76–134.

<sup>17</sup> Cf. P. Jasienica, *Słowiański rodowód*, op. cit.; A. Leszczyński, *Dawne źródła historyczne...*, op. cit.; W.J. Cynarski, *Propinquity of Scythians and Slavs. Remarks on the state of knowledge of Slavic ethnogenesis*, "Ido Movement for Culture. Journal of Martial Arts Anthropology" 2018, vol. 18, no. 1, pp. 1–7; idem, *Heritage of Proto-Aryan ancestors and noble warriors in Central Europe*, "Ido Movement for Culture. Journal of Martial Arts Anthropology" 2018, vol. 18, no. 4, pp. 11–24; idem, *Linguistic and anthropological look...*, op. cit.; idem, *A Polemic about the Slavic Origins in Polish Lands*, "Journal of Anthropological and Archaeological Sciences" 2021, vol. 3, no. 4, pp. 430–434; idem, *The Ancestors of Today's Poles with the Haplogroup R1a*, "Sociology and Anthropology" 2021, vol. 9, no. 2, pp. 19–25; idem, *The Ancestors of Today's Poles: A Contribution to Pre-Polish Antiquity*, "Journal of Anthropological and Archaeological Sciences" 2022, vol. 7, no. 1, pp. 801–808. JAAS.MS.ID.000251; (formerly as a preprint: idem, *A Contribution to Pre-Polish Antiquity*, "Research Square", 12 Oct 2020, <https://www.researchsquare.com/article/rs-88193/v1.pdf>).

<sup>18</sup> H. Haarmann, *Auf den Spuren der Indoeuropaer...*, op. cit.

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### DECLARATION OF CONFLICTING INTERESTS

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## Biogramy, dyskusje, polemiki, recenzje, przegląd wydawnictw, sprawozdania

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Obowiązują następujące znaki umowne:

pauza (—) – zjawisko nie występuje,

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kropka (.) – zupełny brak informacji lub brak informacji wiarygodnych,

znak x – wypełnienie rubryki ze względu na układ tabeli jest niemożliwe lub niecelowe,

„w tym” – oznacza, że nie podaje się wszystkich składników sumy.

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- nie stosuje się tła innego niż białe,

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